SUBJECT: 1983 EDP Estimated Rates

Southern New England Telephone

February 8, 1983

Information Systems District Managers

The EDP estimated full cost rates for 1983 are listed below. These rates are
intended for project planning purposes only. Actual rates, based on monthly
expense dollars and costpool utilization, will vary slightly from month to
month, but should average close to the estimated rate by year end.

MAINFRAME COSTPOOLS

CPU	$ .16/CPU Second
Combined I/O - EXCP's	1.90/1000 Accesses
Reader	.08/Card
Punch	.03/Card
Printer	.98/1000 Lines
TPCC Scheduled Terminals	.24/Terminal Hour
COM Original Microfiche	1.06/Fiche
COM Duplicate Microfiche	.05/Fiche
TPCC Machine Expense	1.00/Unit
WECO Direct Charge	1.00/Unit

DEC TIMESHARE COSTPOOLS

CPU - Prime	$ .18/CPU Second
- Non-Prime	.05/CPU Second
KCS - Prime	.0034/Kilo-Core Second
- Non Prime	.0010/Kilo-Core Second
Disk I/O - Prime	.13/1000 Accesses
- Non-Prime	.04/1000 Accesses
Disk Space	.049/Block per Month
Printer/Reader	.19/Card or Page
Tape Mount	34.30/Mount
Connect Hour	1.45/Connect Hour

PERSONNEL COSTPOOLS

Analyst	$48.60/Hour
Data Entry	34.74/Hour
TPCC People	63.88/Hour
EAM	32.11/Hour
AMA	52.81/Hour
ESS	22.66/Hour

SNET - PROJECT COMPARISON

	SNET	DEC Vax	DEC-20	Ross Vax
COBOL I/O	100.00%	91.56%	335.83%	--
BASIC CPU	100.00	52.47%	247.25	135.01
FORTRAN				
Standard I/O	100.00	97.95	313.75	207.96
Parameter I/O	100.00	57.18	309.45	163.17
Computational	100.00	106.01	303.95	197.61
Executable	100.00	55.07	153.90	282.32
Composite	100.00%	76.02	279.40	188.35

SNET - DEC-20 COMPARISON

	SNET	AMS	CITI	LANDART
COBOL I/O	100.00%	1132.59%	348.18%	235.04%
BASIC CPU	100.00	370.96	140.41	77.74
FORTRAN				
STANDARD I/O	100.00	818.40	336.09	210.39
PARAMETER I/O	100.00	578.25	246.23	164.99
COMPUTATIONAL	100.00	543.07	235.63	141.96
EXECUTABLE	100.00	336.49	176.60	105.87
COMPOSITE	100.00%	611.29	237.38	149.44

SNET - DEC-10 COMPARISON

	SNET	ADP	RAPID	UIS
COBOL I/O	100.00%	1125.30%	1019.79%	1305.74%
BASIC CPU	100.00	1723.47	928.80	740.36
FORTRAN				
STANDARD I/O	100.00	642.33	975.00	539.58
PARAMETER I/O	100.00	1043.44	1038.97	698.39
COMPUTATIONAL	100.00	1459.40	883.51	307.91
EXECUTABLE	100.00	654.34	1740.95	1154.20
COMPOSITE	100.00%	1210.30	1063.89	882.59

SNET - MAJOR T/S USAGE

	SNET	CSC	GEISCO
COBOL I/O	100.00%	863.44%	--
BASIC CPU	100.00	628.96	587.35%
FORTRAN			
STANDARD I/O	100.00	952.47	674.40
PARAMETER I/O	100.00	483.38	269.01
COMPUTATIONAL	100.00	929.68	716.64
EXECUTABLE	100.00	1021.54	1002.09
COMPOSITE	100.00%	796.41	629.00

SNET - MAJOR T/S USAGE

	SNET	DRI	NCSS	COMSHARE
COBOL I/O	100.00%	1711.42%	1873.97%	1533.23%
BASIC CPU	100.00	--	524.97	378.16
FORTRAN				
Standard I/O	100.00	11310.65	2134.99	1171.24
Parameter I/O	100.00	1675.34	1045.50	2018.12
Computational	100.00	1311.00	1298.12	793.47
Executable	100.00	2243.73	1974.85	1031.09
Composite	100.00%	2747.47	1347.30	1108.67

SNET - DSC COMPARISON

	DSC MEMBERS		
	HIGH	SNET	LOW
COBOL I/O	100.00%	33.88%	18.57%
BASIC CPU	100.00	109.01	40.30
FORTRAN			
Standard I/O	100.00	37.24	17.89
Parameter I/O	100.00	49.48	18.27
Computational	100.00	52.02	19.93
Executable	100.00	75.14	14.95
Composite	100.00%	62.55	23.00

	DSC Members		
	HIGH	MEDIAN	LOW
COBOL I/O	100.00%	78.19%	18.57%
BASIC CPU	100.00	77.91	40.30
FORTRAN			
Standard I/O	100.00	71.53	17.89
Parameter I/O	100.00	58.28	18.27
Computational	100.00	62.77	19.93
Executable	100.00	83.93	14.95
Composite	100.00	71.48	23.00

Extended Support	ADP CE/IDC DRI
National TSO	BCS CD-BIS Geisco McAuto SIS
Full Support IBM/CMS	BCS CD-BIS Informatics NCSS Tymshare
Full Support Non-IBM	Comshare CSC Geisco Rapidata Tymshare UIS
Standard TSO	Itel Network NVIP Parklawn UIS
Standard CMS	AMS SIS UIS
High Tech CDC	BCS CDC McAuto UIS
DEC VAX DTSS	Citishare(2) DTSS Landart Ross TCI

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	85.56%	66.94%	15.87%
BASIC CPU	100.00	70.72	56.01	28.83
FORTRAN				
Standard I/O	100.00	80.38	57.33	14.37
Parameter I/O	100.00	88.63	51.45	16.13
Computational	100.00	83.07	52.02	16.44
Executable	100.00	81.76	68.54	12.23
Composite	100.00	81.38	58.04	18.25

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	116.58%	91.04%	21.65%
BASIC CPU	100.00	40.85	33.52	17.24
FORTRAN				
Standard I/O	100.00	59.25	42.06	10.57
Parameter I/O	100.00	71.72	41.97	13.01
Computational	100.00	66.75	43.13	13.22
Executable	100.00	27.85	26.80	4.35
Composite	100.00	64.93	46.95	14.14

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	40.75%	31.85%	7.56%
BASIC CPU	100.00	32.65	27.52	14.26
FORTRAN				
STANDARD I/O	100.00	32.57	22.98	5.80
PARAMETER I/O	100.00	49.14	28.85	8.90
COMPUTATIONAL	100.00	41.99	25.54	8.37
EXECUTABLE	100.00	15.12	12.58	2.26
COMPOSITE	100.00	36.66	25.73	8.58

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	32.70%	25.56%	6.06%
BASIC CPU	0.00	0.00	0.00	0.00
FORTRAN				
Standard I/O	100.00	16.21	11.53	2.89
Parameter I/O	100.00	42.76	24.76	7.82
Computational	100.00	40.71	24.95	8.08
Executable	100.00	37.16	31.37	5.57
Composite	100.00	36.07	24.62	6.58

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	23.26%	18.22%	4.31%
BASIC CPU	100.00	17.08	14.48	7.35
FORTRAN				
Standard I/O	100.00	42.59	29.93	7.58
Parameter I/O	100.00	35.27	20.58	6.40
Computational	100.00	24.89	15.44	4.97
Executable	100.00	17.82	14.83	2.66
Composite	100.00	25.33	17.79	5.55

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	24.29%	19.00%	4.51%
BASIC CPU	100.00	19.18	16.89	8.73
FORTRAN				
Standard I/O	100.00	15.87	11.16	2.82
Parameter I/O	100.00	21.79	12.77	3.95
Computational	100.00	18.45	11.37	3.66
Executable	100.00	6.79	5.62	1.01
Composite	100.00	18.46	13.37	4.54

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	9.72%	7.59%	1.80%
BASIC CPU	100.00	27.13	19.72	10.47
FORTRAN				
Standard I/O	100.00	11.08	7.88	1.98
Parameter I/O	100.00	16.95	9.81	3.09
Computational	100.00	16.47	10.32	3.28
Executable	100.00	17.68	15.37	2.67
Composite	100.00	17.39	12.25	4.36

	RCS Vendor	DSC Members (as a percent of RCS median)		
	MEDIAN	HIGH	MEDIAN	LOW
COBOL I/O	100.00	15.69%	12.27%	2.91%
BASIC CPU	100.00	13.32	9.48	5.05
FORTRAN				
Standard I/O	100.00	9.44	6.71	1.69
Parameter I/O	100.00	15.85	9.32	2.87
Computational	100.00	16.84	10.21	3.36
Executable	100.00	5.82	4.66	.86
Composite	100.00	13.62	9.23	3.09

STORAGE COSTS

TIMESHARING VENDORS

$/K Char./Mo.	Character Level			
	1	5M	10M	25M
.01 - .04	3	3	4	4
.05 - .09	3	5	8	10
.10 - .14	4	5	*5	*5
.15 - .19	3	3*	2	1
.20 - .24	*6	8	8	7
.25 - .29	2	3	1	1
.30 - .39	2	2	1	1
.40 - .49	5	2	2	2
.50 - .59	0	0	0	0
.60 - Up	4	1	1	1

CONNECT CHARGES

TIMESHARING VENDORS

$/Hour	Prime		Non-Prime	
	30 CPS	120 CPS	30CPS	120 CPS
TO 5.99	0	0	6	4
6.00-7.99	3	1	6	2
8.00-9.99	5	1	3	2
10.00-11.99	1	1	*1	5
12.00-13.99	6	5	4	1
14.00-15.99	*5	3	3	*2
16.00-17.99	5	2	3	2
18.00-19.99	4	1	4	1
20.00-24.99	3	*7	2	5
25.00-29.99	0	8	0	6
30.00-Up	0	3	0	2

SNET PROJECT REVIEW MEETING

AGENDA

- Lunch Meeting

- Discuss Approach
  - Screens for SNET Project
  - Macro Descriptors
  - Micro Descriptors

- Review of Activities
  - SNET Interviews
  - Strengths and Concerns
  - Establishment of Data Base
  - Secondary Research

- Early Indications
- Final Presentation
- Conclusion

SCREENS FOR SNET PROJECT

- Phase 1 and 2 analysis - industry overview

- Secondary Research

- Opportunities complimentary to SNET experience

- SNET selected market segments

- Growth rate:

  - Revenue $> 15\%$

  - Profit $> 13\%$

- Achievable ratios:

  - Return on equity $> 17\%$

  - PAT/Revenue $> 12\%$

- Geography - New England

- Information Service Companies with revenues $> \$10$ million

Strategic fit - leverages resources

- Companies by Revenue
  - 10 - 25 million
  - $>$25 million
- Mode of Service
  - Processing Services
    - Remote
      - Interactive
      - Remote Batch
    - Batch
  - Software Products
    - Applications
      - Cross-Industry
      - Industry-Specific
    - Systems
      - Operations
      - Utilities
      - Implementation
  - Professional Services
    - Consulting
    - Systems Design/Programming
    - Education/Training
  - Integrated Systems
    - Software + Hardware
    - Personal Computers
    - Single Entity
  - $\sqrt{\text{VAN}}$

- Major Industries Served

  - Government

    - State

    - Local

  - Commercial

    - Banking and Finance

    - Insurance

    - Retail

    - Services

    - Utilities

- Major Applications

  - Function Specific

    - Accounting/Billing

    - Human Resources

    - Information Analysis

    - Business Graphics

  - Industry Specific

    - Decision Support

    - Specialized Transaction Processing

    - Vendor Data Base Services

    - Utility Services

    - Systems Analysis and Programming

    - Facilities Management

    - Consulting

    - Training

    - Documentation

    - Maintenance

    - Custom Modifications

    - Hardware

    - Software

- Geographic Location - New England

- Issues/Trends

- Environmental Influences

    - Economic

    - Use of Personal Computers

    - In-house Service

    - Communications

- Entry Requirements

    - Hardware

    - Software

    - Technical Expertise

    - Product Development Skills

    - Marketing Skills

    - General Management Skills

- Major Constraints to Growth

SNET CONSULTING PROJECT

MICRO DESCRIPTORS

- Size
    - Number of Companies
    - Number of Employees
    - Revenues
        - Computing Services (Domestic)
            - Captive
            - Non-captive
- Profitibility
    - Net Profit Ratios
    - Operating Ratios
    - Income Statement
        - Revenue
        - Pre-tax Earnings
        - Net Earnings
- Processing Services
    - Hardware
    - Software
    - Network

STRENGTHS

AS EXPRESSED BY SNET

- SONECOR positioning/experience
- Corporate LOB strategies e.g. Directory – data base/videotext,
  Networks SONECOR–PBX

- Financing
- Data bases – *Directory only*
- Network potential – *do not have own sackit switched capability.*
- Expertise within the Connecticut environment
- Proximity to FORTUNE 500 organizations
- Contacts within the manufacturing, technology industries

CONCERNS

AS EXPRESSED BY SNET

- Lack of a current external customer base
- Marketing skills - *depends on what is to be mktg.*
  Have A/E mktg to Telcom Mgrs.
- Track record of entrepeneurial spirit
- Network facilities
- Corporate LOB strategy
- Competitive reaction
- Arms length relationships with regulated entity
- Competitive growth via acquisition within the industry *What is prof?*
- Staffing
- Technical considerations
  - Integrated approach
  - VM/CMS, chargeback, billing system
  - Information Systems products
  - Training/support

Acquisitions: after / year.

STRENGTHS

AS VIEWED BY INPUT

- Knowledge of Communication Industry
- Strong Financial Position
- Leading Edge of Technology
  - IBM

- Strong ISO Management
- Technical Skills and Experience
- Good Application Software Systems
  - Telco/BOC oriented

- Billing System
  - Large volume transactions
  - Low level of detail

- Data Security System
- Consulting/Training Experience

CONCERNS

AS VIEWED BY INPUT

- De-regulation Issue
  - Opportunities
  - Restrictions
  - Actions of other BOC's *(NET, NYT, NJB)*

- Service Requirements Under De-regulation
  - Corporate business
  - New business

- Hardware Compatability
  - Power vs. Product
  - Price competitiveness
  - Capacity

- Perceived "Institutional" Management
- Marketing Expertise

MARKET SEGMENTS

	REVENUE $ IN BILLIONS	AVERAGE ANNUAL GROWTH RATE %
INDUSTRY TOTALS		
1981	22.3	–
1982	25.9	16
1983*	30.8	19
1987*	74.9	24
PROCESSING SERVICES		
1981	10.3	–
1982	11.4	11
1983*	12.9	13
1987*	22.4	14

* INPUT FORECAST

MARKET SEGMENTS   -   CONT'D.

	REVENUE $ IN BILLIONS	AVERAGE ANNUAL GROWTH RATE %
● SOFTWARE PRODUCTS		
1981	4.2	–
1982	5.5	31
1983*	7.4	35
1987*	27.5	38
● PROFESSIONAL SERVICES		
1981	5.0	–
1982	5.5	10
1983*	6.2	13
1987*	12.5	18
● INTEGRATED SYSTEMS		
1981	2.9	–
1982	3.5	21
1983*	4.3	22
1987*	12.4	29

* INPUT FORECAST

INPUT

PROJECT: _YSNT_

PROJECT LEADER: _CK. Howk_

DATE: _4/7/83_

CORPORATE/WEEK ENDING

ACTIVITY / PROJECT	NAME	MAN DAYS	EFFI-CIENCY	ESMD	CORP WEEK END	APRIL 14 4/8	15 4/15	16 4/22	17 4/29	MAY 18 5/6	19 5/13	20 5/20	21 5/27	JUNE 22(4) 6/3	23 6/10	24 6/17	25 6/24	26 7/1
PROJECT AUTHORIZATION/ SPECIFICATION	CKH	.5	1	1			△ 1 ▽											
	RLP	1	.5	1														
Q DESIGN																		
Q APPROVAL/ REVIEW MEETING																		
INTERVIEWS ON SITE ( ) NO. 5	CKH	2	1	3				△ 3 ▽										
	RLP	2	.5															
SENIOR STAFF INTERVIEWS PHONE ( ) NO.	EIM TOF DWF	1	1	1				△ 1 ▽										
SECONDARY RESEARCH DATATAB AND ANALYSIS	CKH	4	1	6.5					△ 6.5 ▽									
	RLP	5	.5															
WRITING	CKH	4	1	6						△ 6 ▽								
	RLP	4	.5															
ABSTRACT																		
QC	EIM	1	1	1														
REPORT PROD. AND SHIPPING																		
PRESENTATION	CKH	1	1	1.5								△ 1.5 ▽						
	RLP	1	.5															
"THANK YOU" MAILED																		
PLAN				20			1	4	6.5	3	3	1.5						
ACTUAL																		
CUM P/A																		

INPUT

R12/8

TITLE _SERVICE BUREAU ENTRY REQUIREMENTS_

CLIENT _SOUTHERN NEW ENGLAND TELEPHONE COMPANY_

CONTRACT: ATTACHED_____ TO FOLLOW _X_ LETTER_____ VERBAL _X_

PROJECT LEADER _C.K. HOWK_____ CODE _YSNT_____

DATE STARTED _4/6/83____ PLANNED COMPLETION DATE _5/20/83_

LEVEL OF EFFORT(Professional Man Days) _2 0_____

TOTAL CONTRACT VALUE: $ _24,500_____

REVENUE DISTRIBUTION (% or $) INPUT US _100%_, INPUT LTD _~_

REIMBURSABLE EXPENSES: NO_____

YES _X_

EXP. BUDGET _$4,500_____ TO COVER: TRAV: _X_
TEL: _X_
RPT. PREP.: _____
OTHER: _____

BILLING SCHEDULE DESCRIPTION _100 % upon completion_

PROJECT DESCRIPTION _To provide primary and secondary_
research information to SNET for incorporation into a
major line of business (LOB) plan to enter into the
Service Bureau business as a major competitor.

INDICATE TYPE OF CUSTOM WORK: REPORT_____ PRESENTATION _X_

THANK YOU PACKAGE: YES_____ NO _X_

March 24, 1983

Mr. Joseph Cline
District Staff Manager
Southern New England Telephone Company
300 George Street
New Haven, CT 06501

Dear Mr. Cline:

INPUT is pleased to submit the enclosed proposal for a custom market research, planning and consulting study on behalf of SNET. This proposal, to work with you and your staff in the development of a Line of Business plan for ISO, is based largely on the time that we have spent in meetings with you recently and on INPUT's vast experience in dealing with the issues and requirements of the information services markets.

We believe this proposal is totally responsive to your needs but welcome the opportunity to review our understanding of your requirements. If you have any questions, need clarification or additional information, please do not hesitate to contact me. We look forward to working with you on this important undertaking, and we feel confident that your faith in INPUT will be fully justified.

Very truly yours,

Edward I. Metz
Senior Vice President

EIM/lcg

Enclosure

OBJECTIVES

o   To provide primary and secondary research information to SNET for incorporation into a major line of business (LOB) plan to enter into the Service Bureau business as a major competitor.

o   To assist SNET in the development and finalization of the LOB plan and to participate as needed in the presentation of the plan to SNET management.

INPUT's UNDERSTANDING

o   SNET, working independently and in conjunction with other consultants, has developed an outline for the gathering, analysis and presentation of data to be incorporated into an LOB plan for participation in the computer services industry.

o   INPUT, because of its knowledge of the computer services industry and the background of its senior staff members, has been selected for consideration in this project, to provide a variety of services including:

   -    Secondary research and analysis of appropriate data on markets, industry practices, industry structure, trends, and the competitive environment.

   -    Recommendations on specific markets and product offerings for SNET to consider as entry markets and products.

   -    Primary research and analysis of data associated with these specific markets which will be targeted for entry during the course of this project.

   -    General management consultation required to assemble a complete business plan for presentation to SNET management.

METHODOLOGY

o   Based on discussions with SNET personnel, a four phase approach will be utilized.

   -    Phase 1 will produce information on markets, products, competitors, and general industry practices and issues.

   -    Phase 2 will result in recommendations on initial markets to be entered and products to be provided for those markets, based upon needs of the market-place and SNET capabilities.

INPUT

- Phase 3 will include primary market research conducted for those products and markets selected from the Phase 2 recommendations.

- Phase 4 will result in a complete LOB plan with focus on marketing strategies, migration from the existing operating environment and detailed financial information.

o For the Phase 1 effort, INPUT will be responsible for developing:

- An Environmental Analysis of the Information Services industry, including:

  . Industry Segmentation

  . Industry Practices

  . Pricing Terms and Conditions

  . Success Factors

  . Major technological trends

- A Market Analysis with a five-year growth perspective.

  . Company structures and key operating and financial ratios.

  . Market segmentation and trends, analyzed by a variety of variables such as delivery mode and geographic concentration.

- A Competitive Analysis which addresses both broad overview and detailed aspects of the competitive environment, generally answering the question, "What must be done to compete effectively?" This analysis will address the issues raised in sections II D.1 and II D.2 of the business plan outline provided to INPUT during pre-proposal discussions.

o Also during Phase 1, INPUT will conduct detailed discussions with SNET personnel in order to ascertain current capabilities (or deficiencies) in the areas of hardware, software, communications, application expertise and the general state of readiness in operations and marketing.

o Phase 1 activities will conclude with an analysis of those market segments best suited for SNET entry.

o In Phase 2, INPUT will:

- Provide detailed recommendations to SNET on at least five markets which could be pursued, together with observations on requirements for SNET in terms of product, personnel, and marketing needs.

INPUT

- Upon discussions which will conclude how many of the recommended markets are to be pursued, INPUT will submit a detailed pricing proposal to SNET for the Phase 3 and Phase 4 activities.

o Phase 3 will consist primarily of conducting primary research for the markets selected in Phase 2.

  - INPUT will design the questionnaire and market survey approach for each market to be studied.

  - Upon review by SNET, INPUT will use the questionnaire (s) to conduct interviews on-site and over the telephone.

  - Interview data will be tabulated and analyzed.

  - A report will be prepared for inclusion in the LOB plan. This report will identify those factors provided in section II, paragraphs C.2, C.3, C.4, C.5, D.2, and D.3 of the business plan outline provided to INPUT.

o In Phase 4, INPUT senior staff will assist in preparing and finalizing the LOB plan document in several key areas including but not limited to:

  - Marketing Mix Plans

  - Growth Strategies

  - Migration Strategy

  - Marketing

  - Hardware/Software Requirements

DELIVERABLES

o Report containing the Industry Overview, Market Segmentation, and Product Analysis information at the conclusion of Phase 1.

o Presentation on the market segments recommended to SNET at the conclusion of Phase 2.

o Presentation on the primary research findings and recommendations developed in Phase 3.

o Report on Phase 3 following the presentation.

INPUT

FEE & SCHEDULE

o   The presenational fee for the project will be as follows:

-   Phase 1 & 2 - $24,500. This amount has been significantly reduced as a direct result of SNET's decision to subscribe to INPUT's ISIP program.

-   Phase 3 - To be bid at the conclusion of Phase 2. For planning purposes, INPUT estimates that each market segment selected for primary research will cost between $15,000 and $25,000, depending on the markets and their complexity.

-   Phase 4 - To be bid at the conclusion of Phase 2. INPUT's approach would be to identify fixed price tasks, and submit a fixed price bid for the completion of those tasks. Any additional days would be billed on a time and materials basis. For planning purposes, INPUT estimates that Phase 4 will cost approximately $7,500.

o   One-half the fee amount for Phases 1 and 2 ($12,250) is due and payable upon authorization. The remainder of the fee plus any out-of-pocket costs incurred for travel and reproduction will be billed at the conclusion of Phase 2.

o   INPUT would begin work on this project within two weeks of award notification. It is anticipated that the effort required for Phases 1 and 2 could be completed in five to six weeks. Phases 3 and 4 would require an additional estimated 6 to 8 weeks. Assuming an April 4, 1983 start date, the project could be completed by early July, 1983.

o   This proposal remains in effect until April 15, 1983.

o   To facilitate authorization, please complete the signature block below and return to INPUT.

AUTHORIZED BY: SOUTHERN NEW ENGLAND   ACCEPTED BY: INPUT
                 TELEPHONE COMPANY

NAME _____   NAME _____

TITLE _____   TITLE _____

DATE _____   DATE _____

INPUT

SOUTHERN NEW ENGLAND TELEPHONE COMPANY

SERVICE BUREAU ENTRY REQUIREMENTS

MEETING: April 13, 1983

PARTICIPANTS:
     SNET
     INPUT
     ISM

AGENDA

INTRODUCTIONS

ROLE OF PARTICIPANTS

GOALS AND OBJECTIVES

SNET CAPABILITIES:
    – ORGANIZATIONAL
    – OPERATIONAL
    – PRODUCT DEVELOPMENT AND MANAGEMENT
    – MARKETING AND SALES

SNET INTERVIEWS

ACTION ITEMS:
    – SNET MEETING OF April 19, 1983
    – SNET ORGANIZATION CHARTS
    – SCHEDULING OF INTERVIEWS
    – PRODUCT BROCHURES AND RESPONSIBILITY

FORM 22

3/8/83

Southern New England Telephone

Research Approach

PHASE 1 - Market Segmentation/Product Analysis

PHASE 2 - Define Product Offerings/Market
            Segments for SNET

PHASE 3 - Primary SNET Research

PHASE 4 - Develop LOB Strategy, Migration Plan,
            Financial Perspective With

         - SNET

         - Alan Brigish (ISM)

         - Ed Metz (INPUT)

[Handwritten annotations in margins:]

Que
5 year projection

Look at market
in line with SNET —
↓
Proposed Bus.

T ms

What does customer require?
Core Dept ISO deals with
1 Corp Planning
2 Network
3 Personal
4 Legal:
Directory (DEC) — Could LOB
run this?

Exhibit I

DEC — ... Det. Programming (DPL) — Check on this
Test processing / Graphics
Is How important is entrepreneurial spirit? An issue?
Look at startups that are ... cross spirit
Issue Must rely on operators ... interface to customer

ISO Line of Business Plan

ISO Service Bureau

I. EXECUTIVE SUMMARY

Direction/Strategic Thrust

Service Bureau Environment

Strategic Positioning

Implementation Strategies

Financial Perspective/Organizational Requirements

Risk Analysis and Contingency Plans

Corporate Issues

ISO Service Bureau

II. Assessment of Opportunities/Threats/Risks and LOB Capabilities

A. Environmental Analysis

INPUT
Phase 1

1) Service Bureau Perspective
   - # of Firms, Market Share, Major Segments (4),
     (Current & Projected Changes $$)
   - Acquisition Strategies/Venture Analysis
   - Economic Environment/Pricing Increases Within S.B.
   - Hardware/Software Pricing
   - New Entrants (Rate of New Entrants Into S.B. Industry)
   - User Growth/Major Growth Segments
   - Critical Success Factors

SNET
Phase 1

2) Regulatory
   - DPUC Issue With Regard to Arms Length, etc.

INPUT
Phase 1

3) Technology Analysis
   - S.B. Migration Towards IBM Hardware
   - P.C., Data Bases, Networks
   - Interactive Environment

B. Market Analysis (5 Yr. Perspective)

INPUT
Phase 1

1) Service Bureau Structure
   - Functions Provided
   - Growth Areas/High Profit Margin Areas
   - Sizing of Firms/Revenue Per Employee

INPUT
Phase 1

2) Market Segmentation Within the Industry (Matrix of Segments vs. Product Offerings)
   - Key Market Segments and Product Offerings/Applications
   - Market Segmentation by Hardware Facility (i.e. IBM TSO, VM)/
     Software Products (i.e. Billing, Order Entry, etc.)
   - Geographic Concentration of Market Segments (Northeast, etc.)
     For Hardware Facility/Software Products
   - Major Trends Within Market Segment, Products
   - Size of Current Market Segments and Future Growth - Total
     Market Demand (Today & 5 Yr. Projection) For Hardware
     Facility and Software Products
   - Profitability Within Market Segments For Hardware Facility
     and Software Product Offerings
   - Critical Success Factors in Key Markets
   - Maturity Analysis of Market Segments and Product Offerings

CHECKPOINT

INPUT
Phase 2

3) Market Segmentation Within SNET Service Bureau
   SNET
   - Define Key Market Segments and Product Offerings
   - Boundary Definition Between ISO LOB and Other SNET LOB's
   - Size of Market Segments (Geographic Orientation)
   - SNET Market Share
   - Success Factors in Key Segments
   - Profit Potential in Key Markets
   - Maturity Analysis of Markets and Products
   - Risks
   - Primary Research in SNET's Market Segments, Cover Ct. *(PhASE 3)*
     Based Firms (Fortune 500 etc.)

C. Customer Analysis

INPUT
Phase 1

1) Customer Attributes (Generic Items)
   - Comparative Shopping
   - Expenditure Trends, Control
   - Cost Sensitivity
   - Type of Terminals
   - Reasons for Using Service Bureaus

INDUSTRY
PERSPECTIVE

2) Customer Perspective (SNET Segments)
   - Primary Consumers (i.e. Who Buys the Service)
   - Geographic Concentration
   - What Are They Utilizing Today (i.e. Hardware and Generic
     Software, Hardware and More Developed Software, Hardware
     and S.B. Developed Software...). Categorize by Market
     Segments.
   - Wants/Needs
   - Factors Influencing Demand
   - Service Expectations
   - Future Customer Expenditures
   - Allegiance Towards Provider/Critical Success Factors to
     Retain Customers
   - Customer Risks
   - Perception of SNET/Would They Buy

3) Economics
   - Elasticities (Cross, Price, Demand)
   - Cost Pools to User (i.e. Connect, CPU, Storage, Output, Misc.)

INPUT
Phase 1

4) Decision/Awareness
   - How & Where is the Buy Decision Made
   - Motivation for Utilization of Service Bureau
   - Comparative Analysis
   - How is Product/Service Information Sought

INDUSTRY
PERSPECTIVE

5) Network Needs

D. Competitor Analysis

INPUT
Phase 1

1) Industry Overview
   - Basic Services Provided by All Service Bureaus
   - Enhanced Service
   - Sizing (# Firms, Growth of Firm, Size of Market)
   - Growth Projection by Market Segments
   - Major Financial Opportunities
   - Rate of Entry Into Market
   - Risks
   - New and Projected Direction Trends

D. <u>Competitor Analysis</u> (Continued)

    2) <u>Specific Industry Issues</u>
- Market Share
- Product/Service Differentiation
- Barriers (Entry/Exit)
- Pricing (DEC 10/20 - IBM 3033/3081)
- Economic Ratios (Attachment 2)
- Network Requirements
- Equipment - Type Commonly Utilized, Lease vs. Purchase, Backup, Percent Utilization, Throughput Considerations
- Personnel/Revenues
- Cost Pool for S.B. (i.e. Market, Hardware, Operation, Administration, Technical, etc.)
- Marketing Organization/Centralized vs. Decentralized
- Promotion/Advertising
- Distribution Choices/Direction
- Management Style
- Salaries
- Software (Off the Shelf vs. Customized, Costs, Royalties...)
- New Entrants (i.e. IBM/AT&T, etc.)
- Office Systems, PC, Data Bases, Video Text (New Trends)
- User Friendly Environment

    3) <u>Major Competitors of SNET's Service Bureau Entry</u>
- Firms
- Positions Within Industry
- Strengths/Weaknesses
- Future Direction
- Legal DPUC Bottlenecks/ADAPSO/ANPA (Am. Newspaper Assoc.)

    4) <u>Major Independent Tel. Co. Approaches to the Service Bureau Industry</u>

E. <u>ISO Line of Business Assessment</u>

    1) <u>ISO Strengths</u>
- Software
- Technical
- Hardware/Software

    2) <u>Corporate Strengths</u>

    3) <u>Concerns/Risks</u>

    4) <u>Assessment/Advantages</u>
- Facility
- Hardware/Software
- Application Expertise

    5) <u>LOB Positioning</u>

III. ISO Line of Business Strategies

INPUT

Phase 1/2

Rough Cut

1) ISO Service Bureau Strategies
   - ISO LOB Direction
   - Positioning
     · Primary Focus
     · Hardware/Software/Support Functions Provided
     · Market Segments
     · Networking
     · Competitive Advantages
   - Competitive/Market Positioning
     · Market Expansion, Direct Competition, Niche Strategy

2) Marketing Mix Plans
   - Product/Service Strategy
     · Integrated Approach
     · Major Elements Offered
   - Pricing
     · Connect, CPU, Storage, Output, Misc., Software Dev.,...
   - Promotion/Advertising
   - Distribution Strategy
     · Network, Centralized Facility
     · Regional Support Staffs
     · Market Staff/Venture Groups

3) Organizational Strategy
   - Direction
   - Sizing/Staffing
   - Relationship with SNET

4) Growth Strategies
   - Acquisitions
   - Ventures

Add an acquisition strategy
Grow at 20%
Acquisition should be from target attendees
of Conquest

IV. <u>Functional Plans and Operations Actions</u>

   1) <u>Migration Strategy</u>
       - Purchase, Joint Venture
       - Initial Introduction/Thrust
       - Growth Strategy - Hardware/Software/Service

   2) <u>Product/Facility Sourcing</u>
       - Venture Software
       - Developed Software
       - Utilization of SNET EDP Facility (Hardware & Software)
       - Data Base Creation
       - Contract Negotiations for Software Utilization

   3) <u>Marketing</u>
       - Tactical Sales Approach

   4) <u>Advertising/Promotion</u>

   5) <u>Implementation Schedule</u>

   6) <u>Risks</u>

   7) <u>Contingency Plans</u>

   8) <u>Staffing</u>

   9) <u>Hardware/Software Requirements</u>

V. Financial Analysis

1) Financial Perspective
    - Financial Assumptions
    - 1983-1993 Income Statement
    - Balance Sheet
    - Financial Ratios

2) Major Expenditure Plans

INDUSTRY PERSPECTIVE
FULL SERVICE BUREAU FACILITY

PROCESSING SERVICES
- REMOTE COMPUTING SERVICE
  - INTERACTIVE
  - REMOTE BATCH
  - DATA BASE
  - VIDEOTEXT
  - OFFICE SYSTEMS

- BATCH SERVICES

- FACILITIES MANAGEMENT

SOFTWARE PRODUCTS
- APPLICATION PRODUCTS
  - CROSS INDUSTRY
  - INDUSTRY-SPECIALIZED PRODUCTS

- SYSTEMS PRODUCTS
  - SYSTEMS OPERATIONS
  - SYSTEMS UTILIZATION
  - SYSTEMS IMPLEMENTATION

PROFESSIONAL SERVICES
- CONSULTING

- SYSTEMS DESIGN/CUSTOM PROGRAMMING

- EDUCATION/TRAINING

INTEGRATED SYSTEMS
- INTEGRATION OF SYSTEMS AND APPLICATIONS SOFTWARE WITH HARDWARE, PACKAGED AS A SINGLE ENTITY

- OEM DISTRIBUTORS

NETWORK FACILITIES
- VALUE ADDED NETWORKS

SERVICE BUREAU PERSPECTIVE

END USER

NON-EDP
PROFESSIONAL

EDP
PROFESSIONAL

COMMUNICATIONS
. LOCAL
. LONG HAUL
. VALUE ADDED

CRT

PC

TTY

RJE

SERVICE BUREAU FACILITY
(INFORMATION PROCESSING)
. PROCESSING
. SOFTWARE PRODUCTS
. PROFESSIONAL SERVICES
. INTEGRATED SYSTEMS
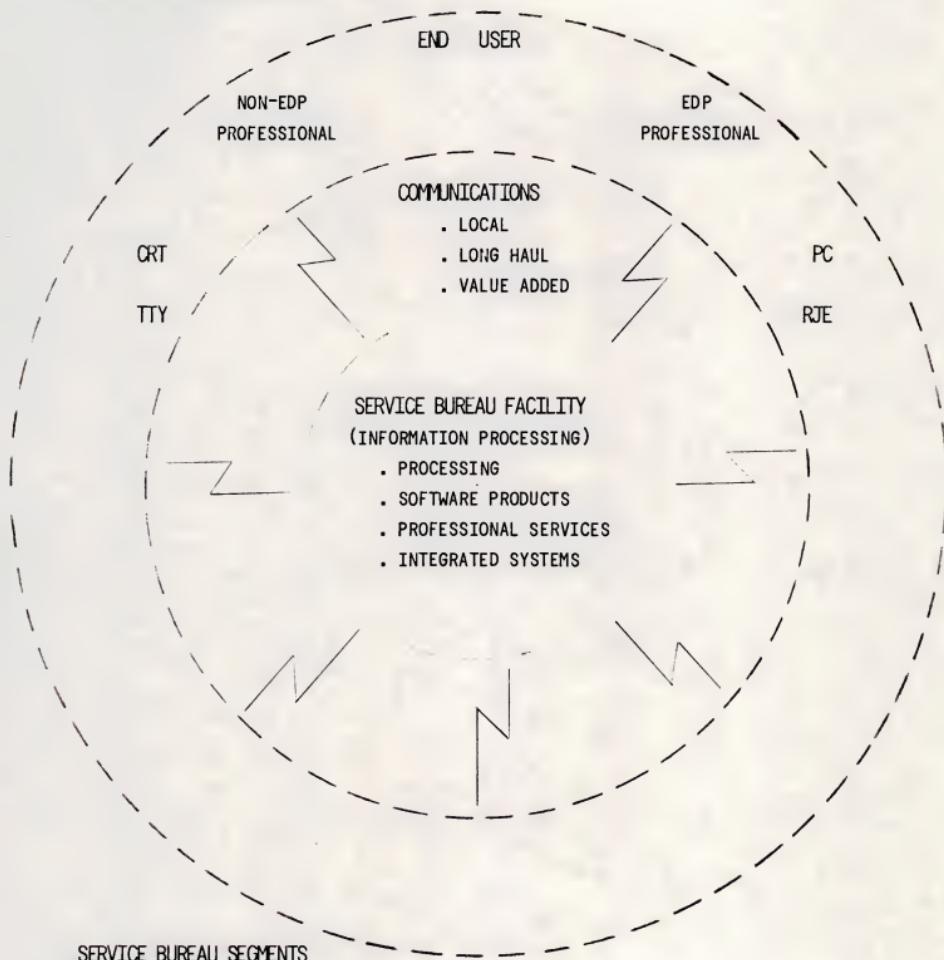
SERVICE BUREAU SEGMENTS
. END USER
. COMMUNICATIONS
. INFORMATION PROCESSING FACILITY

SERVICE CONCEPT
. PROVIDE FOR AN INTEGRATED "END TO END" COMMUNICATION AND INFORMATION
PROCESSING FACILITY

INPUT

March 30, 1983

Mr. Joseph Cline
District Staff Manager
Southern New England Telephone Company
300 George Street
New Haven, CT 06501

Dear Joe:

INPUT is pleased to respond to the questions you have raised regarding our proposal to SNET dated March 24, 1983. Much of the research that INPUT has done in support of our management planning subscription programs is applicable to the custom research requirements of market analysis and entry. In addition, INPUT has recently completed several custom studies that are comparable to that proposed to SNET. Appropriate highlights of program research and custom studies is included with this letter as Appendix A.

I will act as project manager on this engagement and will use INPUT senior staff, including Carl Howk and Rich Peterson, to complete the study. Their resumes and those of other INPUT consultants available to work on this study are included as Appendix B.

Again, thank you for the opportunity to submit this proposal. I look forward to our next meeting when we can confirm all of the appropriate details of this important project.

Very truly yours,

Ed Metz

Edward I. Metz
Senior Vice President

EIM/lcg
Enclosure

APPENDIX A

<u>INPUT RESEARCH EXPERIENCE</u>

Formed in 1974, INPUT has become a leading international firm in market research, planning and consulting. Clients include over 100 of the world's largest and most technically advanced companies. INPUT has been selected by the Association of Data Processing Service Organizations, Inc. (ADAPSO), for the fourth consecutive year to publish their annual report of the computer services industry.

<u>CUSTOM CONSULTING</u>

o   INPUT was selected to develop a business strategy for a major corporation considering a diversification into the computer service market:

-    Conducted market study to assess feasibility of client's product concept.

-    Helped client refine product.

-    Sized market and conceptualized alternate growth scenarios.

-    Devised multi-layered business plan format.

-    Met with key headquarters staff to explain and "sell" concept.

-    Plan was approved and funded by top management and is now being implemented.

o   INPUT has developed a business plan for a computer services subsidiary of a major corporation. The work entailed:

-    Performing market research and analysis on current products.

-    Developing and testing new product concepts.

-    Directing the process for estimating resources necessary for developing and bringing the new product to market.

-    Advising on format and contents of new a product business plan.

o   INPUT recently performed a market study and analysis for a major turnkey systems firm planning to expand their product line. The study recommended against planned product enhancement becuase:

<div align="right">INPUT</div>

- Internal client studies had overestimated target market segment size by a factor of 10.

- Price of enhanced product would have been substantially higher than industry norm.

- Product would have had only marginally increased functionality.

o INPUT recently performed a study for a major remote computing services firm to evaluate software systems and in-house expertise that could be marketed profitably. The study evaluated potential products from the standpoint of the client's ability to deliver the product to the market. The study developed recommendations on specific software systems and resulted in the determination of the potential for such offerings. The issues included:

- Product recommendations.

- Product characteristics.

- Market Size.

- Acceptance of a new entrant.

- Market strategy.

- Pricing considerations.

o INPUT was retained to assess the commercial market for several software products, including a data base management system, a CAD/CAM system and computerized graphics and engineering systems for a Fortune 500 company. Market potential for these products was evaluated by the following criteria:

- Degree of value-added to products by the client.

- Client's unique strengths.

- Relationship to corporate strategies.

- Market size.

- Competitive assessment.

o In 1982, INPUT completed a forecast of the software market potential, evaluating whether a major division of a Fortune 100 company should enter the software business and, if so, in what manner. First, INPUT analyzed and reported to the client the general market size, trends and issues. Secondly, INPUT defined the specific opportunities, the alternatives for entry and the risks and advantages of different market strategies.

- This is an on-going assignment, with the next step being a plan for entry into the software market.

o Recently, INPUT determined for a large United States and Canadian company how it could offer software services in both countries and remain competitive in the future. This study identified:

- Needs and requirements of potential customers.

- The kinds of specific software products needed to be competitive.

- Options open to the client.

- Market demand assessment for related software products.

NOTE: While the specific data and conclusions reached in these custom studies are proprietary to their respective clients, the general knowledge and experience developed during study execution is available to SNET. INPUT believes that its extensive prior experience will result in an efficient, high-yielding study for SNET.

SERVICES TO INFORMATION INDUSTRY VENDORS

o INPUT, as known by SNET, offers an annual subscription program, the Management Planning Program for the Information Services Industry (ISIP).

- The ISIP annual report will be reviewed initially to determine the best potential markets.

o Other research that will be reviewed from ISIP include:

- Market Opprotunities in Newwork Services

- Market Trends in Professional Services.

- Office of the Future: Opportunities for Service Companies.

- Opportunities in Marketing Applications Software Products.

- Opportunities in Marketing Systems Software Products.

COMPANY ANALYSIS AND MONITORING PROGRAM (CAMP)

o INPUT will review competition in each of the potential markets identified.

o CAMP is a basis for this analysis in that it provides accurate and timely information on computer services companies in the United States and Canada.

o Moreover, the reports that are published by INPUT are backed up by an extensive library of documentation product literature and in-depth analysis of each company in the program.

INPUT

o   Annual Reports, 10K's, 8K's and 13D's will also be reviewed from those
        companies filing with the Securities and Exchange Commission.

SERVICES FOR COMPUTER AND COMMUNICATIONS USERS

o   INPUT provides subscribers to its Information Systems Program (ISP) with an
        annual report of the information industry for each of ten major industry
        sectors.   This report will be used in our research to determine potential
        markets for SNET. Topics in the report include:

        -       Analysis of major issues and trends.

        -       EDP budgets and growth expectations.

        -       EDP objectives, plans and problems.

        -       Significant computer and communications vendor activity.

        -       Analysis of major issues and trends.

o   Other reports from this program that will be used in our research include
        surveys and trends and specific opportunities for application software.

APPENDIX B

INPUT
SENIOR STAFF
RESUMES

CAPABILITIES

o   Sixteen years of experience in the information industry include marketing, research and planning positions in computer equipment, computer service and broadcasting firms.

o   Extensive research and planning work in user site hardware services and the information needs of small businesses.

o   Mr. Fostle has published a number of articles on the history of technology.

BACKGOUND

o   Director of Information Services for Automatic Data Processing, Inc.

EDUCATION

B.Sc., Northwestern University.

o   Graduate work, with emphasis on research methods and the diffusion of innovations - Michigan State University.

CAPABILITIES

o   Fourteen years in the information services industry.

o   Marketing, sales and implementation of major engineering software systems.

o   Marketing and sales management of remote computing services.

BACKGROUND

o   INPUT studies directed in the following areas:

  -      Computer-aided design, engineering and manufacturing.

  -      Computer usage in the engineering, design and construction of process plants.

  -      Software valuation.

  -      OEM disclosure practices.

o   Marketing Vice President, Compeda Inc.

o   Sales and marketing management postions within the INFONET Division of Computer Sciences Corporation.

EDUCATION

o   B.A., Hillsdale College (Michigan), 1964

o   M.B.A., University of Virginia, 1970

CAPABILITIES

o   Twenty-five years in the computer and information industry.

o   Development of business and implementation strategies.

o   Research and analysis involving both commercial and government information systems and services.

o   Specialist in the computer services industry including product, marketing, and management strategies.

o   Analysis of companies for investment/acquisition potential.

BACKGROUND

o   Senior Vice President, INPUT, Director of INPUT's East Coast activities.

o   Director of Corporate Development, Automatic Data Processing (ADP), Inc. Responsibilities included acquisition candidate determination and assessment, market research, and business development planning.

o   Vice President and Principal, the Cyphernetics Corporation. Responsibilities included product development, implementation strategies and organization, marketing and direct sales management, and corporate planning.

o   Manager of Equipment Planning, Ford Motor Company. Responsible for computer hardware and equipment-related activities, including vendor analysis, selection, and project management for communications and data processing operations.

o   Marketing Manager, Philco-Ford, large-scale computer/communications systems for both government and commercial applications, including command and control, and computer-assisted instruction.

EDUCATION

o   B.S. in Electronic Physics, St. Josephs University (Philadelphia), 1957

o   Advanced studies at University of Pennsylvania

CAPABILITIES

o   Twelve years in data processing management.

o   Management consultant in data processing and business planning.

o   Systems analysis design of large computer systems.

o   Research and analysis involving use of information processing systems and services.

BACKGROUND

o   INPUT studies directed in the following areas:

-    Office automation and personal computer.

-    Computer performance measurement and capacity planning.

-    Insurance data processing services.

-    Information services product development, marketing techniques and business practices.

-    New product studies.

-    Timesharing and information centers.

-    Design and feasibility of a new software concept.

o   Engagement Manager for American Practice Management consultants.

o   Assistant Commissioner for Information Systems in New York State Health Department.

o   Deputy director, Information Systems for the New York City Health and Hospitals Corporation.

EDUCATION

B.A. with honors Colgate University.

Certificate in Data Processing (CDP), Institute for the Certification of Computer Professionals.

CAPABILITIES

o   Implementation of information technologies, including data processing training.

o   Management of business planning and analysis for information processing services.

o   Research and analysis of information systems and services utilization.

o   Systems analysis, design, and development of applications software.

BACKGROUND

o   Owner and principal developer of software applications for Peterson Associates.

o   Vice President and editorial director of product development for Edutronics/McGraw-Hill.

o   Director of research and development, including product and market strategic planning for Gregg/McGraw-Hill.

o   Research analyst of government-sponsored projects for Research for Better Schools.

EDUCATION

o   B.S. in Education, Edinboro (Pennsylvania), 1966

o   M.S. in Psychology, Penn State, 1971

o   Ph.D. in Computer Science and Statistics, Penn State, 1974

AREAS OF COMPETITIVE ADVANTAGE

FOCUS ON

- SNET REPUTATION / CUSTOMER BASE
- FINANCIAL POSITION
- SERVICE ORIENTATION
- END to END SERVICE CAPABILITY
- NETWORKS
- EOP EXPERTISE
- LACK of Significant Competition in some areas
- UNMET USER NEEDS

YSNT

5/23/83
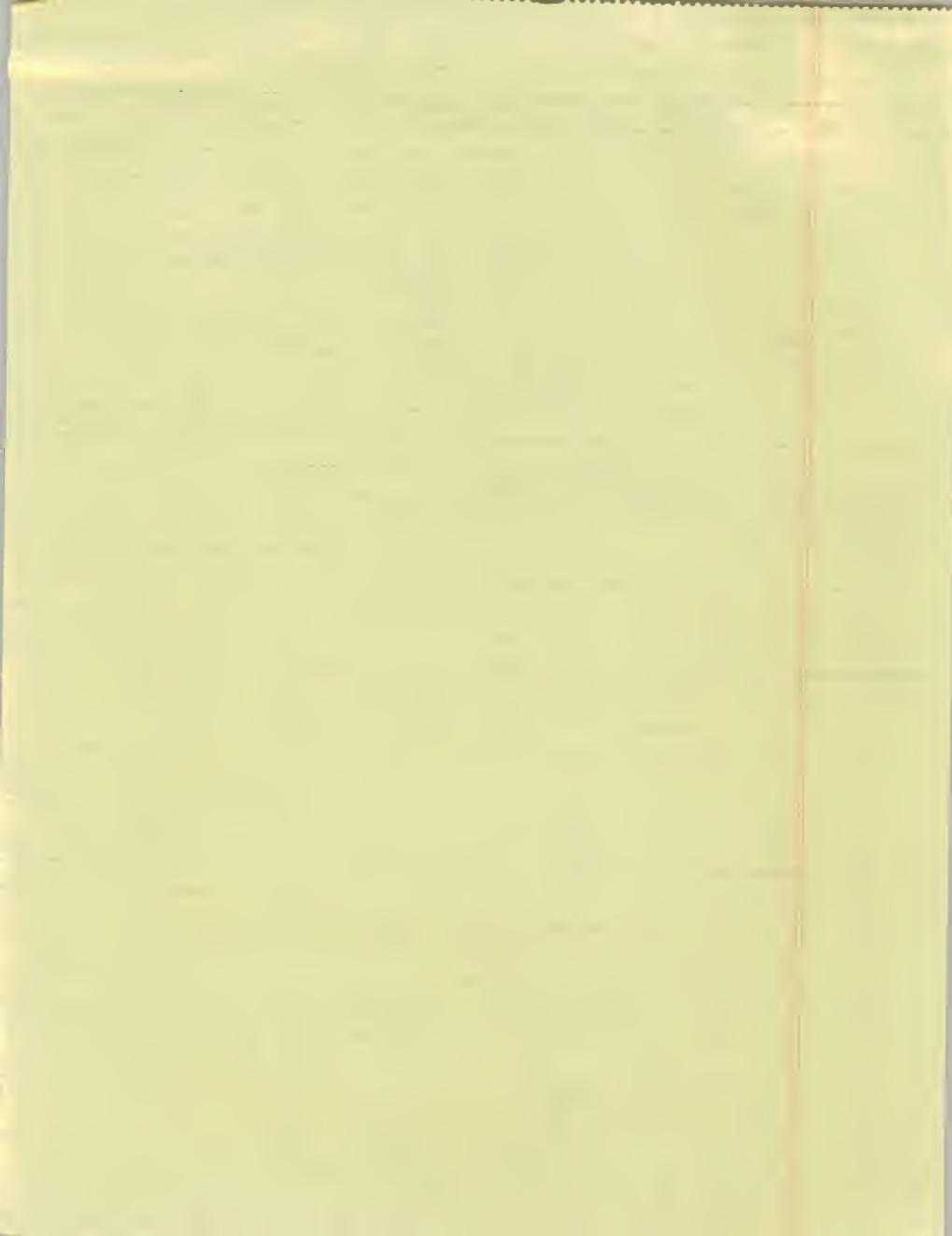
C. HOWK
CARL —

Attached for your information

- CABLE
- Ct. Business View
- Migration Thoughts
- Areas of Competitive Advantage
- Comments on Final Presentation

A. Cline

Migration Thoughts

SNET SERVICE Bureau Introduction

- Leverage Existing areas
  - i.e.
    - Timeshare
    - perhaps Training : Micro center along with disp center
    - etc.

- Establish Individual Business Unit

  - Sell Timeshare to SNET

  - Support Unregulated corporate LOB groups

  - Position for movement for External – take care of all administrative, contractual etc. problem & then go outside –

 - Allows for Positive Cash flow initially

  - etc.
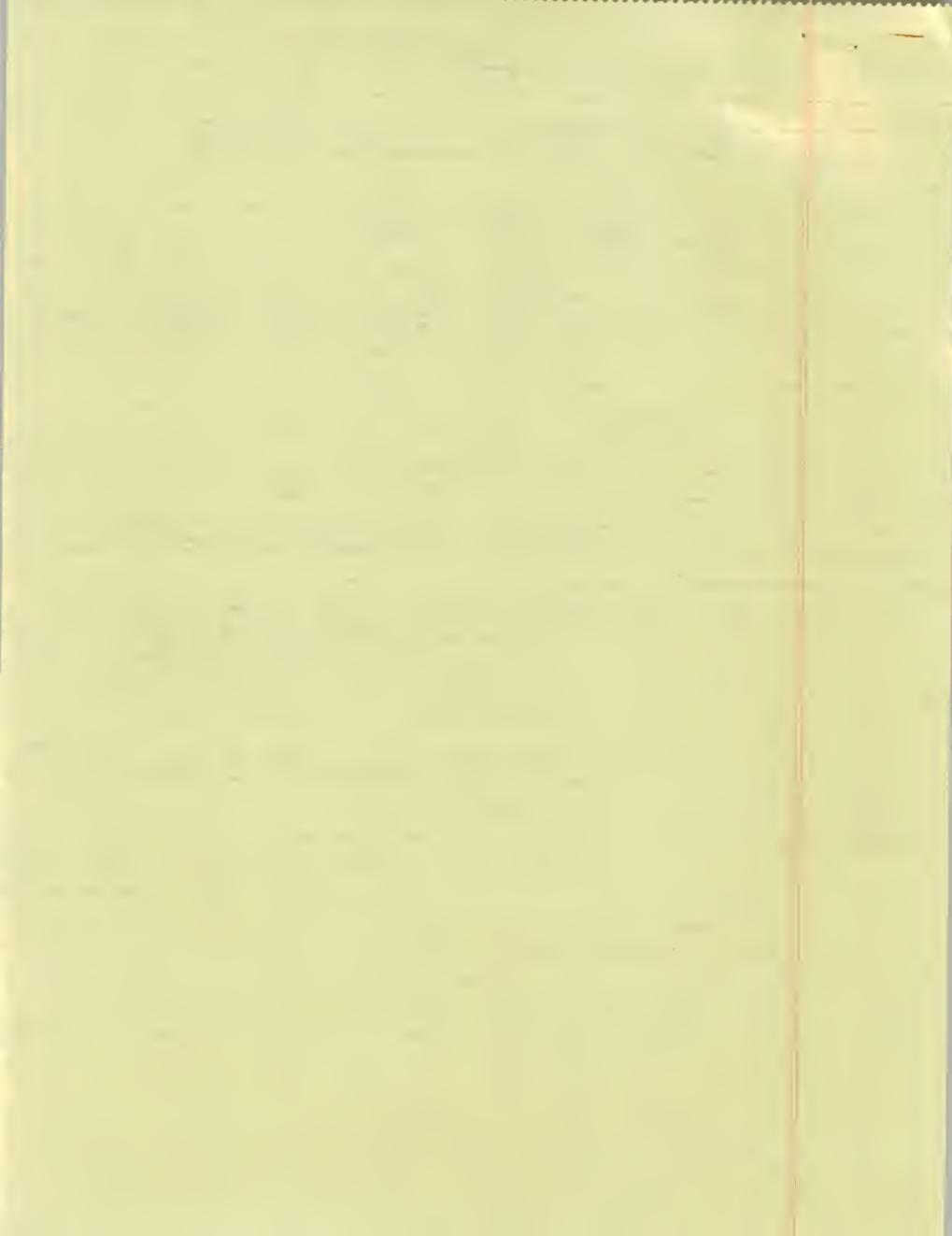
SECTION V

ISO/LOB ORGANIZATION

. <u>SEPARATE ORGANIZATION</u> WITH TOTAL RESPONSIBILITY FOR PROVIDING HARDWARE,
SOFTWARE AND PROFESSIONAL SERVICES IN AN UNREGULATED
ENVIRONMENT

```
                    ┌──────┐
                    │ ISO  │
                    └──────┘
                       │
   ┌───────────┬───────┴───────┬─────────────┬─────────┐
 CRIS        IDP          OPERATIONS      PLANNING     LOB

                    ┌──────┐
                    │ LOB  │
                    └──────┘
          ┌────────────┼─────────────────┐
   ┌──────────────┐ ┌──────────────┐ ┌──────────────┐
   │ TECHNICAL    │ │ APPLICATION  │ │ MARKETING,   │
   │ SUPPORT      │ │ DEVELOPMENT  │ │ ADM & SUPP   │
   └──────────────┘ └──────────────┘ └──────────────┘
```
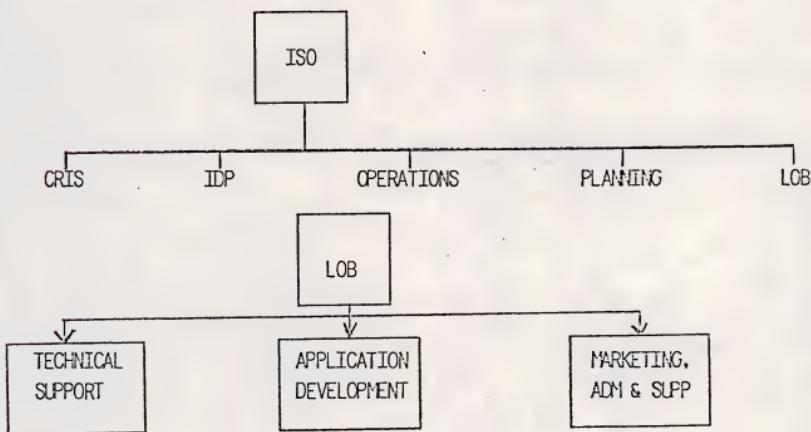
. DEC   . PROFESSIONAL SVCS   . <u>MRKT</u>:
. VM   - DESIGN   LOCALLY DEV. SYSTEMS
. INFO CENTER (EXTERNAL) - PGM   NEW DEV. EFFORTS
. HOTLINE (INTERNAL)   - CONSULT   TIMESHARE FACILITY
. NETWORK   . IMPLEMENT SOFTWARE   VENTURES/ROYALTIES
                       PRODUCTS   . <u>ADM & SUPP</u>
                                                   CONTRACT
                                                   BILLING
                                                   PRICING
                                                   TRAINING

ISO LOB - ORGANIZATIONAL SUPPORT

THE ISO LOB GROUP CAN POSITION ITSELF TO INTERFACE WITH AND SUPPORT GROUPS INTERNAL AND EXTERNAL TO THE ORGANIZATION. SOME OF THE FUNCTIONS/RELATIONSHIPS WITHIN THE CORPORATION ARE DETAILED AS FOLLOWS:

- INTERNAL SNET ENVIRONMENT
    - CUSTOMIZED EDP SOFTWARE, ASSOCIATED PROFESSIONAL SERVICES AND RELATED HARDWARE SUPPORT TO BE OFFERED TO:
        - SNET INTEREXCHANGE CUSTOMERS (UNREGULATED WORK EFFORTS)

        - UNREGULATED LOB GROUPS

    - MARKET SNET EDP SYSTEMS ON A ROYALTY BASIS

    - PROVIDE TIMESHARE FACILITY TO SNET VIA DEC & POTENTIALLY IBM HARDWARE

    - ISO OPERATIONS TO PROVIDE SPACE AND OPERATIONAL SUPPORT

- EXTERNAL ENVIRONMENT
    - PROCESSING SERVICES, SOFTWARE PRODUCTS AND PROFESSIONAL SERVICES TO THE CONNECTICUT ..... MARKET PLACE.

SECTION VI

INITIAL SERVICE OFFERING

THE RECOMMENDED APPROACH IN INTRODUCING AN EDP SERVICE BUREAU
CONCEPT WOULD BE A PHASED INTRODUCTION OF PRODUCTS TO SELECTED MARKET
SEGMENTS. CURRENT TECHNOLOGY, QUALITY SERVICE AND SUPPORTIVE
DOCUMENTATION AND TRAINING MATERIALS ARE THE KEY TO ONES SUCCESS. A
POTENTIAL SCENARIO OF INITIAL SERVICE OFFERINGS IS AS FOLLOWS:

SERVICE BUREAU FUNCTION	DELIVERY VEHICLE	TARGET MARKET
PROCESSING SERVICES		
. REMOTE COMPUTING	DEC HARDWARE	SNET, LOB, CATV
. BATCH	IBM HARDWARE	CATV, UTILITIES
SOFTWARE PRODUCTS		
. CABS, LMS	SNET/AUXCO	INDEPENDENT TELCO'S
PROFESSIONAL SERVICES	SNET	SNET LOB, ATTIX, CATV

THIS TYPE OF APPROACH ALLOWS FOR A SELECTIVE ENTRY INTO THE
MARKET PLACE WITH LITTLE RISK AND EASE OF ENTRY/EXIT.

STAFFING

THE INITIAL VIEW ON STAFFING REQUIREMENTS TO SUPPORT A BASIC
OFFERING AND EXPANSION IS AS FOLLOWS:

```
1983 - 25
1984 - 50
1985 - 75
```

STAFFING WOULD BE ACCOMPLISHED VIA TRANSFER OF FUNCTION/PEOPLE
FROM ISO TO ISO-LOB, UTILIZATION OF THE POSITION VACANCY ROUTINE AND
SELECTIVE EXTERNAL HIRING.

THIS APPROACH ALLOWS US TO GROW WITH THE EXTERNAL MARKET DEMAND
AND STAFF ACCORDINGLY.

CONN. 'Business Segmentation
(115,000 Firms)

Industry Segment	# Firms	%	RANK
Discrete Mfg	8827	7.6	
Process Mfg	2943	2.5	
TRANS.	2793	2.4	
UTIL.	2914	2.5	
Banking & Fin.	2510	2.2	
Insurance	2520	2.2	
Medical	7613	6.6	
Education	2732	2.4	
Retail	25,865	22.3	
Wholesale	6,605	5.7	5
Gov.	5,367	4.6	6
Services	8034	6.9	3
OTHER	37,276	32.2	

Ct. Mrkt
Segmentation

Conn. Business Segmentation

Pie chart segments:
- Process MFG (2.5%)
- Education (4%)
- Banking/Finance (4%)
- Insurance (2%)
- Transportation (2.2%)
- Medical (6.0%)
- Services (6.9%)
- Construction (7.4%)
- Personal Svcs (4.8%)
- Real Estate (3.5%)
- Other Known & Unkn (8.6%)
- Misc Svcs (2.1%)
- Automotive (2.5%)
- State + Fed Govt (7.6%)
- Unknown (3.4%)
- Retail (22.3%)
- Discrete MFG (7.6%)
- Wholesale (5.7%)
- Utilities (2.5%)
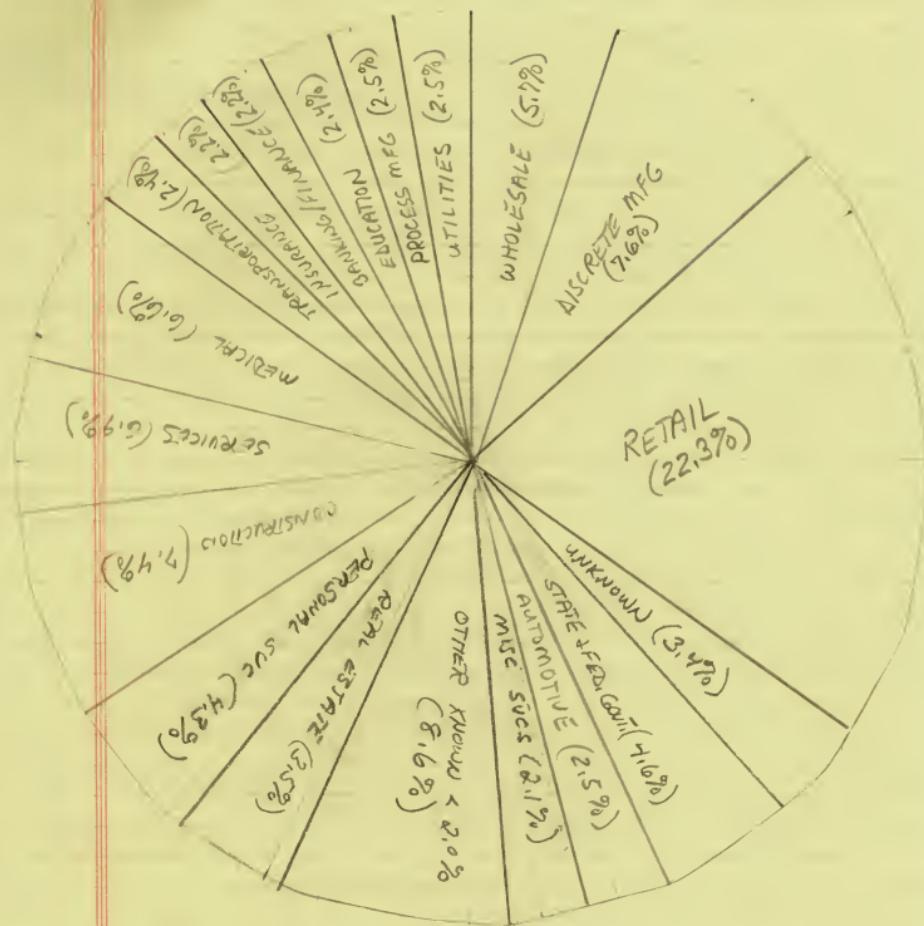
TOP 1500 Business Customers By SNET Billed Revenue
(i.e. WATS, TOLL, P/L etc.)

Industry Segment	# firm	%	
Discrete Mfg	382	25.4%	
Whole Sale	163	10.8%	
Util	141	9.4%	
Banking & Fin.	135	8.9%	
Svcs	131	8.7%	
Proc Mfg	128	8.5%	
Insurance	91	6%	
Gov't	78	5.2%	
OTHER	78	5.1%	
Transportation	55	3.6%	
Retail	47	3.1%	
Medical	42	2.8%	
Education	30	2%	
	1500		

TOP 150 Ct. Bus. Extracted from DUNS

Industry Segment	# firms	%	Rank
Discrete Mfg	386	25.73 %	
Whole sale	249	16.6 %	
Retail	212	14.13 %	
Process Mfg	191	12.73 %	
Banking & Fin.	95	6.33 %	
Services	54	3.6 %	7
Construction	56	3.7 %	6
Medical	44	2.93 %	8
Insurance	42	2.8 %	9
Real Estate	40	2.67 %	10
Transportation	32	2.13 %	12
Util	30	2.0 %	
Education	14	.93 %	14
Remaining (OTHER)	32	2.64 %	11
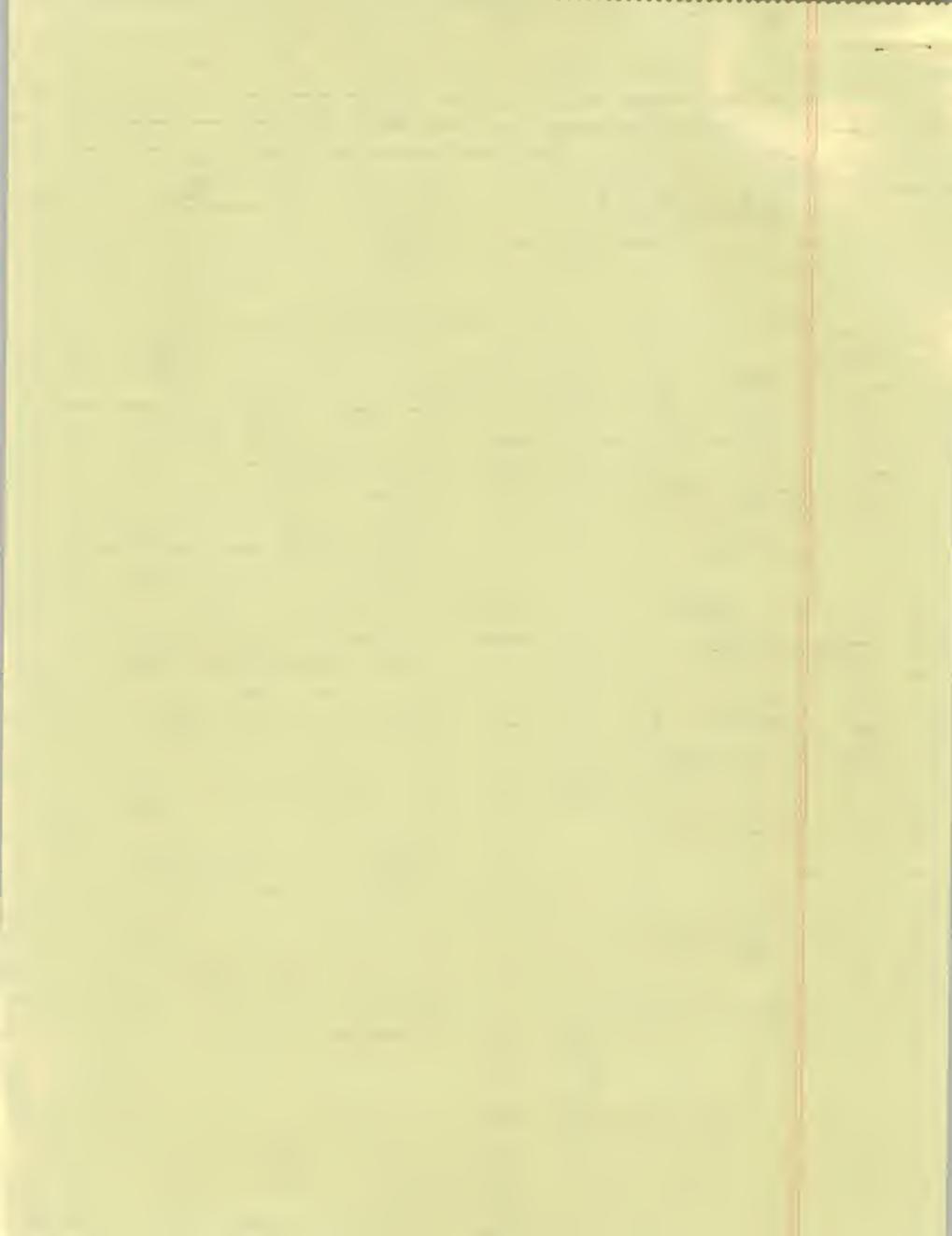
Top 1000 Connecticut Cos.
Extracted From Duns Marketing File

Wholesale
(249)
16.6%

Durable
Manufacturing
(586)
35.33%

Remaining * (53) 3.64%
Education (14) .93%
Utilities (30) 2.0%
Transportation (32) 2.13%
Real Estate (40) 2.66%
Insurance (42) 2.8%
Medical (44) 2.93%
Construction (56) 3.7%
Business
Services
(54)
3.6%
Banking
Finance
(95)
6.33%

Nondurable
Manufacturing
(281)
18.73%

Retail
(212)
14.13%
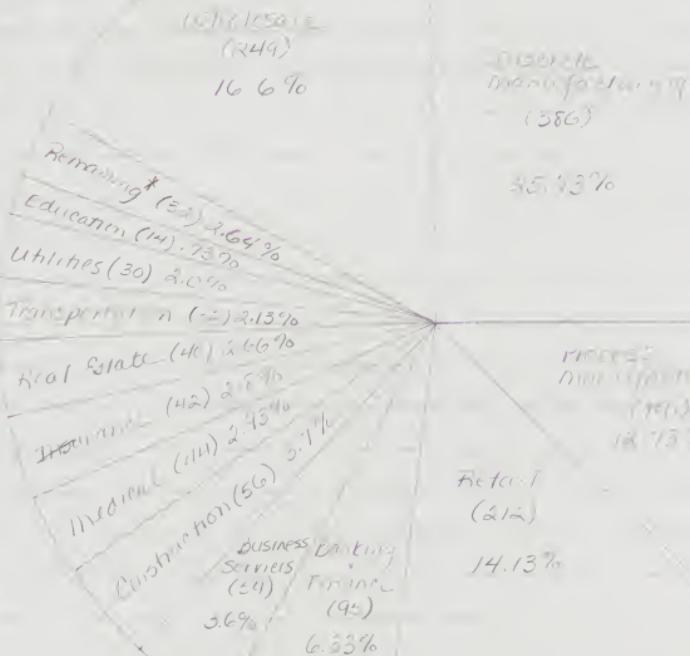
* Misc Srvs (7) .46%
  Auto Repair (6) .4%
  Recreation (6) .4%
  Social Srvs (5) .33%
  Member Orgs (5) .33%
  Hotels (3) .2%
  Agriculture (3) .2%
  ?-81 (2) .13%
  Personal Svc (2) .13%
  Misc Repairs (1) .06%
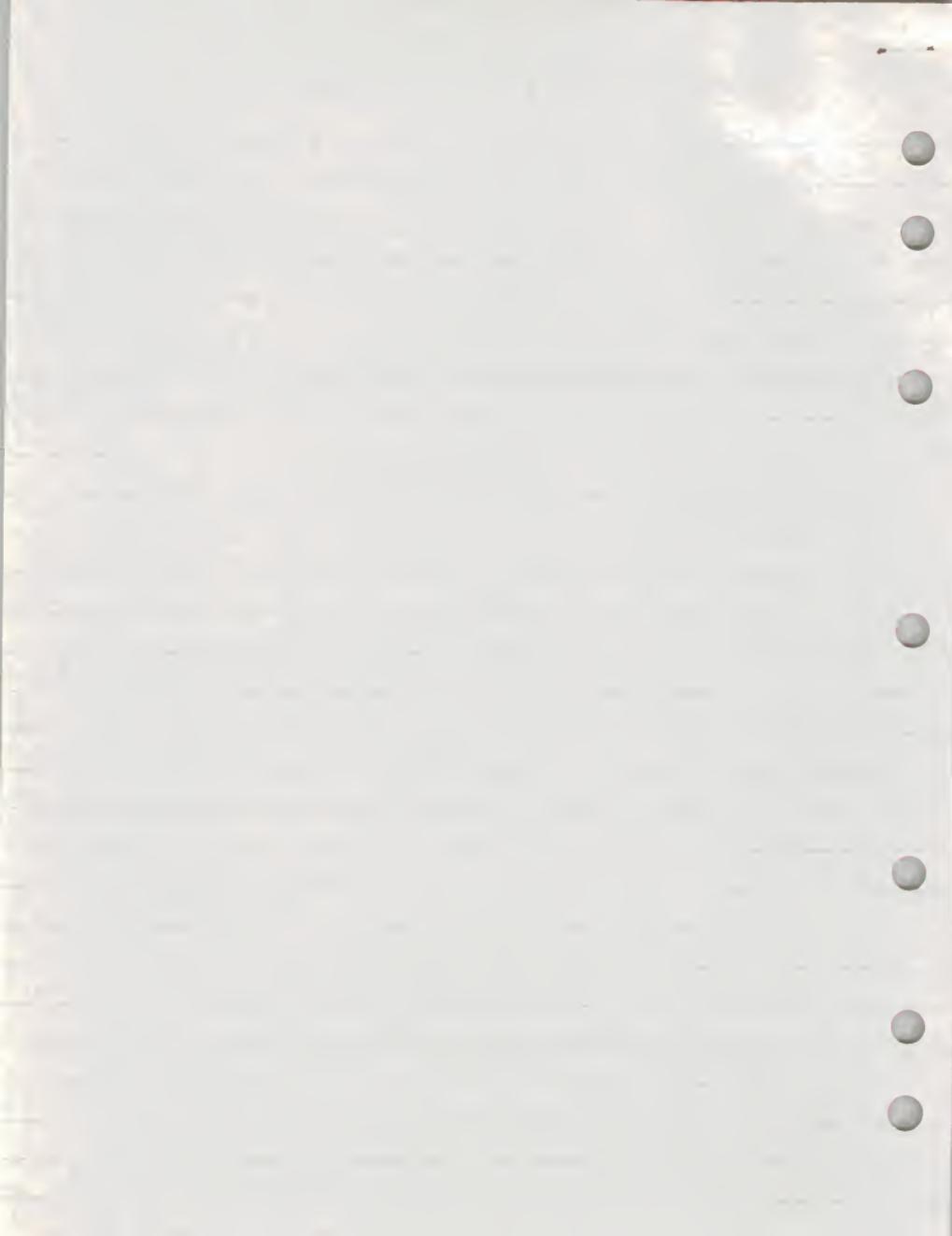
Top 10,000 ct. Bus Firms Extracted from Duns

Segment	# Firm	% Total	Rank
Discrete Mfg	1714	17.1%	
Wholesale	1602	16.0%	
Process Mfg	615	6.2%	
Transportation	341	3.4%	
Utilities	96	1.0%	
Retail	2318	23.2%	
Bank / Finance	186	1.9%	
Insurance	233	2.3%	
Real Estate	309	3.1%	
OTHER	2586	25.9%	

OVERVIEW OF THE CABLE MARKET

NEW ENGLAND

- CONNECTICUT

  - 19 SYSTEMS

  - 440K SUBSCRIBERS

  - 40% PENETRATION

- RHODE ISLAND

  - 1 SYSTEM

  - 5K SUBSCRIBERS

  - 1.5% PENETRATION

- MASSACHUSETTS

  - 42 SYSTEMS

  - 400K SUBSCRIBERS

  - 20% PENETRATION

- VERMONT

  - 43 SYSTEMS

  - 80K SUBSCRIBERS

  - 42% PENETRATION

- NEW HAMPSHIRE

  - 40 SYSTEMS

  - 130K SUBSCRIBERS

  - 38% PENETRATION

- MAINE

  - 35 SYSTEMS

  - 140K SUBSCRIBERS

  - 34% PENETRATION

TRI-STATE

- CONNECTICUT

    - 19 SYSTEMS
    - 440K SUBSCRIBERS
    - 40% PENETRATION

- NEW YORK

    - 185 SYSTEMS
    - 1.8M SUBSCRIBERS
    - 28% PENETRATION

- NEW JERSEY

    - 53 SYSTEMS
    - 870K SUBSCRIBERS
    - 33% PENETRATION

REGIONAL - NATIONAL

- New England

    - 180 systems
    - 1.2M subscribers
    - 27% penetration

- Northeast (NE, NY, NJ)

    - 418 systems
    - 3.9M subscribers
    - 29% penetration

- National

    - 5,000 systems
    - 31.1M subscribers
    - 37% penetration

AVERAGE SYSTEM SIZE

	SYSTEMS	SUBS PER SYSTEM	PENETRATION
• SYSTEMS SURVEYED	10	37.8K	54%
• TOTAL CT	19	23.1	40
• OTHER NE	161	4.7	28
• NY	185	9.7	28
• NJ	53	16.4	33
• TOTAL NE	180	6.7	27
• NORTH EAST	418	9.3	29
• NATIONAL	5,000	6.2	37

THE ROLE OF MSO's

- 50 COMPANIES ACCOUNT FOR 18M SUBS (3/31/82)

- OF THE COUNTRY'S 10 LARGEST MSO'S, 5 OWN SYSTEMS OR ARE
  HEADQUARTERED IN CONNECTICUT, AND WERE INCLUDED IN THE
  SURVEY.

- THEIR FIGURES FOR NUMBER OF SYSTEMS OWNED (12/31/81)
  AND TOTAL SUBSCRIBERS (3/31/82):

  - WESTINGHOUSE (GROUP W) - 116 - 1,652K
  - COX CABLE   - 62 - 1,132
  - STORER   - 129 -   920
  - TIMES MIRROR   - 67 -   676
  - ROGERS - UA   - 21 -   589

FACTS AND TRENDS

- NATIONAL PENETRATION PROJECTED AT 50% IN 2 YEARS, OR 42 MILLION SUBSCRIBERS

- AVERAGE MONTHLY CHARGE FOR SERVICE IS $17; HIGHEST $45.

- 28 - 35% OF CUSTOMERS DISCONNECT ALL OR PART OF THEIR SERVICES EACH YEAR

- BIG CITIES ACCOUNT FOR 80% OF THE POTENTIAL MARKET YET TO BE WIRED

- BUT POLITICAL PROBLEMS HAVE CAUSED MANY CABLE COMPANIES TO SHUN BIG CITIES IN FAVOR OF STRINGING TOGETHER MANY SMALLER SYSTEMS IN SUBURBS AND RURAL AREAS

STRUCTURE OF A TYPICAL
CABLE BILLING SYSTEM
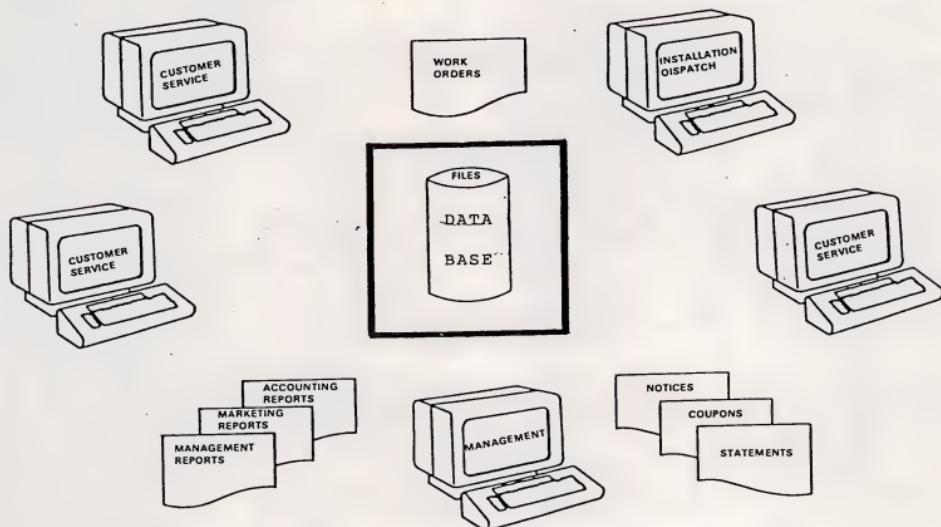
- **Billing Service**

  - INSTALLS SYSTEM
  - PROVIDES HARDWARE, SOFTWARE
  - MAINTAINS DATA BASE
  - PROGRAMS CHANGES TO SYSTEM
  - PRINTS BILLS

- **Cable Company**

  - ENTERS DATA
  - RUNS UPDATE PROGRAMS
  - DOES ON-LINE INQUIRIES
  - PRODUCES REPORTS
  - MAILS BILLS

SUMMARY OF FINDINGS

GENERAL POINTS

- CABLE DATA DOMINATES MARKET

    - 6 CD USERS

    - 2 HANDLEY WALKER USERS

    - 2 IN-HOUSE (CORPORATE MSO) USERS

- CONSISTENT WITH CD'S "OVER 60%" OF NATIONAL MARKET

- MOST COMPANIES OWNED BY AN MSO - DECISION ON VENDOR HANDED DOWN FROM PARENT

CAPABILITIES - MODE OF OPERATION

- ON-LINE INQUIRY AND ENTRY

- BATCH OR TAPE UPDATES

- CD SUPPORTS TANDEM FOR IN-HOUSE CPU - TWICE
  MONTHLY TAPE TO CD, THEY SEND BACK A TAPE TO
  UPDATE LEDGERS

- ALSO, INTELLIGENT TERMINALS FOR MENU-DRIVEN
  ENTRY, REPORTING

- SOME DO ENTIRELY IN-HOUSE, CD ONLY PRINTS BILLS

CAPABILITIES - DATA AND REPORTS

- SERVICE CALLS, UPGRADES, DOWNGRADES

- GENERAL LEDGER, ACCOUNTS PAYABLE, PAYROLL

- INVENTORY - INTERFACE WITH ADDRESSABLE SOFTWARE
  TO TRACK CONVERTERS

- WIP, AGING OF RECEIVABLES, MID- AND END-MONTH
  REPORTS, BY STREET, BAD DEBT REPORTS

- TANDEM USERS HAVE TBOL FOR DOING OWN CUSTOMIZED
  REPORTING, ON OWN DISK - MORE EXPENSIVE TO PROGRAM
  ON-LINE WITH CD'S FILES

- BASIC ALSO USED FOR CUSTOM REPORTING

USER SATISFACTION - WHAT DO USERS WANT ?

- ABILITY TO PERFORM CUSTOM REPORTING

- EASIER CODING OF COMBINATION SERVICE PACKAGES

- MORE INVENTORY, PAYROLL INTERFACE

- FINANCIAL MODELING, REPORTING SOFTWARE

- CYCLE BILLING
  (HW USER WANTS IT, CD OFFERS IT)

USER ATTITUDES - PRESENT OFFERINGS

- CD USERS OFTEN THINK THEY'RE STUCK ("ONLY GAME IN TOWN")

- SOME MOVEMENT

    - ONE CD USER "LOOKING AROUND"

    - ONE CD USER'S FELLOW MSO SUBSIDIARY MOVING TO HW

- NOT MANY USERS GET SALES CALLS FROM VENDOR (SOME WOULD BE HANDLED ONLY AT CORPORATE LEVEL)

- WILLING TO LISTEN

USER ATTITUDES - POTENTIAL SUPPLIERS

- Mostly reluctant to go in-house

- See a need for specialized industry knowledge on vendor's part

- Mostly receptive to utilities - appreciate value of in-place billing system, experience

- "We don't want to put anybody in business"

- Two opposed responses:

    - Data service business for cable in "stone age"; need much more flexible billing, reporting capabilities (HW user)

    - Nothing complicated about the business, why reinvent the wheel, just want good service at reasonable cost (CD user)

POTENTIAL CABLE BILLING MARKET

- TWO RESPONSES TO COST QUESTION:

  $ .25/SUB/MONTH (HW) AND $ .33/SUB/MONTH (CD)

  - COSTS INCLUDE HARDWARE, SOFTWARE, VENDOR'S
    SERVICES (EXCEPT SPECIAL PROGRAMS)

  - COSTS EXCLUDE POSTAGE AND CABLE COMPANY
    PERSONNEL

- PRESENT NATIONAL MARKET (31.1M SUBS):
  $90M - $125M

- POTENTIAL MARKET IN 1985 (42M SUBS):
  $125M - $165M

RECOMMENDATIONS

● SNETCo. SHOULD PURSUE CABLE BILLING AS A POSSIBLE
  BUSINESS OPPORTUNITY:

  - LARGE, GROWING MARKET

  - ROOM FOR COMPETITION

  - PROBLEMS ARE SIMILAR TO THOSE PRESENTED BY
    TELEPHONE BILLING

  - SNETCo. IS LIKELY TO BE VIEWED FAVORABLY BY
    CABLE COMPANIES

● THE NEXT STEPS:

  - EXTEND SURVEY TO OTHER GEOGRAPHICAL AREAS OR
    TO HEADQUARTERS OF LARGEST MSO'S

  - DEVELOP A DETAILED SYSTEM SPEC FOR A PROTOTYPE
    OFFERING

  - USE A LOCAL COMPANY (PREFERABLY A UNIT OF AN
    MSO) AS AN ALPHA TEST SITE FOR A SNETCo. SYSTEM

INPUT CONTACT REPORT

STATE: Conn.   DATE WRITTEN: 4/14/83

COMPANY: Southern New England Telephone
NAME: Joe Cline
TITLE:
ADDRESS: 227 Church St.
          New Haven, CT 06506
PHONE (203) 771-5200

INPUT STAFF:
(INIT.) R.P., CH
(INIT.) E.M
☐ PHONE
☒ VISIT
CONTACT DATE: 4/13/83

REASON:
☐ SALES
☐ INTERVIEW
☐ PRESENTATION
☐ HOTLINE
☐ SUPPORT
☒ OTH: REVIEW

RELATING TO:
☐ ISIP ☐ FSP
☐ CAMP ☐ OTM
☐ ISP   ☐ IMP
☐ CAEM
☒ CUSTOM
☐ OTHER
ID: YSNT

☐ MAIL LIST (Check all that apply) ☒ Client ☐ Prospect ☐ Press ☐ Key Contact ☐ Decision Maker ☐ Product User

DISCUSSION: Kickoff meeting to discuss secondary research to be completed by INPUT as a part of a business plan being developed by SNET to enter the computer services industry. SNET delivered a contract and an outline of a business plan with INPUT's deliverables identified. R.P. presented the structure of the information to be provided. INPUT indicated that we could not describe the entire industry in detail but would work with SNET to develop screens (criteria) that would help us identify the best opportunities for SNET. E.M. then presented an approach to identifying revenue goals which helps to identify needed strategies to achieve goals.
        Discussion then centered on the status of JC's LOB organization and characteristics of it. Among the

BUSINESS DEVELOPMENT POTENTIAL:

☐ EXTRA PAGE(S) ATTACHED

ACTION DIST	TIME REQUIRED	DESCRIBE ACTION OR FOLLOW-UP	BY WHEN	DONE	INFO DIST
C H		Get SNET to provide bus. criteria			E I M
R L P		Residual value of 3081 w/ 32 mg by			R L P
		Assess power of DPL (DEC data base)			D D
CH/E IM		Set up contact for JC to see commercial operations using MVS and DEC 10			

INPUT CONTACT REPORT

STATE: _____ DATE WRITTEN: 4/14/83

COMPANY: SNET con't (2)

NAME: _____

TITLE: _____

ADDRESS: _____

PHONE ( ) _ - _

INPUT STAFF:	REASON:	RELATING TO:
(INIT.) EMCH	☐ SALES	☐ ISIP ☐ FSP
(INIT.) RP	☐ INTERVIEW	☐ CAMP ☐ OTM
☐ PHONE	☐ PRESENTA-TION	☐ ISP ☐ IMP
☒ VISIT		☐ CAEM
CONTACT DATE:	☐ HOTLINE	☐ CUSTOM
4/13/83	☐ SUPPORT	☐ OTHER
	☐ OTH:	ID _____

☐ MAIL LIST (Check all that apply) ☐ Client ☐ Prospect ☐ Press ☐ Key Contact ☐ Decision Maker ☐ Product User

DISCUSSION: Characteristics:

- LOB will be split from SNET's information services bureau and have its own technical, applications, mgmt, and marketing group. The hardware and operator functions will remain with ISO

- ISO has 425 programmers with most of salaries near maximum. Entry level is $37k. There is little turnover.

- Expense budget for ISO is $55M

- ISO charges $48.00/hr for applications dev. with $35.00/hr a direct cost to programming.

- ISO has DEC 10 (Timeshare) and IBM 3033 + 3081

- No commercially usable documentation

BUSINESS DEVELOPMENT POTENTIAL: _____

☒ EXTRA PAGE(S) ATTACHED

ACTION DIST	TIME REQUIRED	DESCRIBE ACTION OR FOLLOW-UP	BY WHEN	DONE	INFO DIST

INPUT CONTACT REPORT

STATE: _____ DATE WRITTEN: 4/14/83

COMPANY: SNET con't (3)

NAME: _____

TITLE: _____

ADDRESS: _____

PHONE ( ) - .

INPUT STAFF:
(INIT.) EM, CH
(INIT.) RP
☐ PHONE
☒ VISIT
CONTACT DATE:
4/13/83

REASON:
☐ SALES
☐ INTERVIEW
☐ PRESENTA-TION
☐ HOTLINE
☐ SUPPORT
☐ OTH: _____

RELATING TO:
☐ ISIP ☐ FSP
☐ CAMP ☐ OTM
☐ ISP ☐ IMP
☐ CAEM
☐ CUSTOM
☐ OTHER
ID _____

☐ MAIL LIST (Check all that apply) ☐ Client ☐ Prospect ☐ Press ☐ Key Contact ☐ Decision Maker ☐ Product User

DISCUSSION: _____

- No significant text processing or graphics capabilities

Other issues uncovered (also see Action, p1):
- What potential problems exist if LOB uses ISO operators as interface to customers?
- How important is an entrepreneurial spirit among staff members? (Current staff may have institutional spirit)

BUSINESS DEVELOPMENT POTENTIAL: _____

☐ EXTRA PAGE(S) ATTACHED

ACTION DIST	TIME REQUIRED	DESCRIBE ACTION OR FOLLOW-UP	BY WHEN	DONE	INFO DIST

WHITE • DIST   GREEN • EXEC.; PROG. MGR'S.;   YELLOW • CONTACT   PINK • TERR. SALES MGR.   GOLDENROD • ORIGINATOR
P.A. LIBRARY
R 1/81

INPUT

April 26, 1983

Mr. John Cassulo
District Staff Manager
Information Systems Organization
Southern New England Telephone
300 George Street
New Haven, CT 06506

Dear Mr. Cassulo:

Ross Miller and Joe Cline join INPUT in thanking you for the time that you spent
with us recently discussing ISO's possible LOB in the computer service bureau market.
We appreciate your participation and cooperation and feel that the information
provided will be of benefit to SNET.

If needed, we hope we can call upon you again. Thanks for your valuable time.

Very truly yours,

Carleton R. Howk
Senior Consultant

Richard L. Peterson
Senior Consultant

CRH/RLP:lcg
Enclosure

X7662

4/27/83

INPUT

Interview Schedule

Street Address
↓

8:30 A.M.	Robert ~ Spry	8th Floor - 300 George St.
	Division Manager, Computer Operations	
10:00 A.M.	E. William Kobernusz	10th Floor (1015) - 227 Church St.
	Division Manager, Comp. Planning	
1:00 P.M.	Frank Wollensack	13th Floor (1303) - 227 Church St.
	Vice Pres., Technical Planning	
2:30 P.M.	Alan ~ Haesche	7th Floor - 300 George St.
	Division Manager	
3:30 P.M.	*Interdepartmental Data Processing*	
	Norman M. Haffner	5th Floor - 300 George St.

Address to

Name
Title
Southern New England Telephone
Street
New Haven CT 06506

JC/jm

Dear _____

Ross Miller and Joe Cline the join us in thanking
you for the the time that you spent with
us recently discussing INPUT's possible LOB
in the computer service bureau market. We
appreciate your participation and cooperation
and feel that the information provided will
be of benefit to INPUT.

If needed, we hope we can call upon you
again. Many thanks for your valuable time.

VTY.
RM
RLM.

Note: For Cline's letter, drop (Miller)
for Miller's ", drop (Cline)

Mailing List

Ross Miller, ~~Vice President~~
Vice President *organization*
Information Systems 8D2 Southern New England Telephone
300 George Street, 8D2
New Haven, CT 06506

Joseph Cline
District Staff Manager *organization*
Information Systems 588 Southern New England Telephone
300 George Street, 588
New Haven, CT 06506

Karen A. Ahern
District Staff Manager *organization*
Information Systems 8C1
Southern New England Telephone
300 George Street, 8C1
New Haven, CT 06506

Abbott Davis, Jr. ~~Vice President~~
Vice President
Director, & Support Services
Southern New England Telephone
195 Church St.
New Haven, CT 06506

Leon Wendelowski
District Staff Manager
Directory & Support Services ← Southern New England Telephone
300 George St
New Haven, CT 06506

CARLETON R. HOWK
Senior Consultant

4/20/83

Rich -
 SNET interview schedule for Thursday
   4/21:

 9:00 JOE CLINE

 9:30 Ross MILLER - V.P. Information Systems

11:00 Abbott DAVIS - V.P. Directory &
          Support Services.
       195 Church St.

 1:00 JOHN CASSUCO - District Mgr/Mng (ISO)
         Bill Farrell

 1:00 Jim PITCHEU - Director, Consulting Svcs.
       367 Orange St.

          C-

SNET 4/21/83   **INPUT**

CARLETON R. HOWK
Senior Consultant

1. Bill KOBERNUSZ - Div. Mgr. Corp. Planning

2. Jim PITCHELL - Director Consulting Svcs

3. Ross MILLER - V.P. Information Systems

4. Bob Spry - Div. Mgr. Corp. Ops.

5. John Caruolo - Dist Mgr. Planning (ISO)

6. Leon Wendelowsk; Dist Staff Mgr (EIs)

? 7. Directory Operations

    8. Technical Planning

SERVICE BUREAU ENVIRONMENT

PROCESSING SERVICES
- REMOTE COMPUTING SERVICE
  - INTERACTIVE
  - REMOTE BATCH
  - DATA BASE
  - VIDEOTEXT
  - OFFICE SYSTEMS

- BATCH SERVICES

- FACILITIES MANAGEMENT

SOFTWARE PRODUCTS
- APPLICATION PRODUCTS
  - CROSS INDUSTRY
  - INDUSTRY-SPECIALIZED PRODUCTS

- SYSTEMS PRODUCTS
  - SYSTEMS OPERATIONS
  - SYSTEMS UTILIZATION
  - SYSTEMS IMPLEMENTATION

PROFESSIONAL SERVICES
- CONSULTING

- SYSTEMS DESIGN/CUSTOM PROGRAMMING

- EDUCATION/TRAINING

INTEGRATED SYSTEMS
- INTEGRATION OF SYSTEMS AND APPLICATIONS SOFTWARE WITH HARDWARE,
  PACKAGED AS A SINGLE ENTITY

ISO/LOB APPROACH

ESTABLISH SMALL ISO/LOB TASK FORCE

IDENTIFICATION/UTILIZATION OF OUTSIDE EXPERTISE
- REAL DECISION CORP.
- INPUT, IDC
- IBM
- INFORMATION SYSTEMS MARKETING
- NUMEROUS PUBLICATIONS
- SERVICE BUREAUS

UTILIZATION OF CORPORATE RESOURCES
- BUSINESS RESEARCH
- CORPORATE PLANNING

DICUSSIONS WITH LOB GROUPS

DEVELOPMENT OF A BUSINESS PLAN OUTLINE

DEVELOPMENT OF A MARKET RESEARCH APPROACH & LOB STRATEGY UTILIZING
- INPUT/IDC/ADL
- ISM
- SNET

REVIEW WITH ISO DISTRICT, DIVISION MANAGER & V.P.

REVIEW WITH MANAGEMENT COMMITTEE

STRUCTURE/STAFF FOR 3Q83 PHASED INTRODUCTION

ISO LINE OF BUSINESS

DIRECTION

   TO ESTABLISH A FULL SCALE UNREGULATED
SERVICE BUREAU ENVIRONMENT WHICH WILL PROVIDE
THE NECESSARY EDP HARDWARE AND SOFTWARE FACILITIES
TO SUPPORT THE "TOTAL INFORMATION NEEDS" OF OUR
MARKET SEGMENTS.

SIZE

- SIGNIFICANT FACTOR IN THE MARKET PLACE
- MIGRATION TOWARD A 100+ MILLION OPERATION DURING THE 80's

PRIMARY FOCUS

- PROCESSING SERVICES
    - REMOTE COMPUTING

- SOFTWARE PRODUCTS
    - INDUSTRY SPECIALIZED
- PROFESSIONAL SERVICES

TARGET MARKET

- COMMUNICATIONS INDUSTRY
- OTHER INDUSTRIES
    - BANKING
    - INSURANCE
    - DATA PROCESSING
      (PENDING RESEARCH)

GOALS

- PHASED INTRODUCTION
- PROVIDE CURRENT TECHNOLOGY
- EFFECIENCY - LOW COST PROVIDER
- INNOVATION AND GROWTH
- PROFITABILITY

SERVICE PROVISIONING

- NATIONWIDE ACCESS & CLIENT SUPPORT
- REGIONAL OFFICES/AFFILIATES
- GROWTH VIA
    - DIRECT MARKETING
    - JOINT VENTURES
    - MARKETING AGENTS
    - ACQUISITION

LEVERAGE STRENGTH

- WITHIN ISO
- WITHIN CORPORATION

STRENGTHS

<u>WITHIN ISO</u>

- APPLICATION DEVELOPMENT SKILLS
    - BILLING - ORDER ENTRY, ACCOUNTS, CASH, MEASURED RATING,
              COLLECTIONS, INVENTORY, REPORTING, BILLS
    - MARKETING INFORMATION SYSTEMS, RATE CASE PREPARATION
    - PERSONNEL, PENSIONS
    - DEVELOPMENT OF LARGE SYSTEMS
    - IMPLEMENTATION OF PACKAGES

- TECHNICAL EXPERTISE
    - DATA BASE, TP, SOFTWARE DEVELOPMENT PLANNING
    - OPERATIONS, SCHEDULING, SYSTEM SOFTWARE & HARDWARE
    - FACILITIES MANAGEMENT, OFFICE SYSTEMS, PC

- HARDWARE/SOFTWARE
    - GENERAL PURPOSE (IBM 3033/3081 MVS)
        - STORAGE, TP, PROCESSING, PRINTING
        - LEADING EDGE, PRICE ADVANTAGE
        - SIGNIFICANT SOFTWARE
    - IN-HOUSE TIMESHARE (DEC10/TOPS10)
        - TP, PROCESSING
        - SIGNIFICANT SOFTWARE

- OPERATIONAL
    - LARGE PHYSICAL PLANT
    - BACKUP & SECURITY
    - EXPERIENCE WITH BATCH & INTERACTIVE ENVIRONMENT
    - DEAL WITH LARGE VOLUMES
    - TPCC

- CURRENT DATA BASES

- LOCALLY DEVELOPED SYSTEMS

- POTENTIAL FOR QUICK ENTRY INTO THE SERVICE BUREAU ENVIRONMENT

STRENGTHS

WITHIN CORP

- SONECOR POSITIONING/EXPERIENCE

- CORPORATE LOB STRATEGIES

- FINANCING

- DATA BASES

- NETWORK POTENTIAL

- EXPERTISE WITHIN THE CONN. ENVIRONMENT

- PROXIMITY OF FORTUNE 500 ORGANIZATIONS

- CONTRACTS WITHIN THE MANUFACTURING, TECHNOLOGY, ... INDUSTRIES

CONCERNS

. LACK OF A CUSTOMER BASE

. MARKETING SKILLS

. TRACK RECORD OF ENTREPENEURIAL SPIRIT

. NETWORK FACILITIES

. CORPORATE LOB STRATEGY

. COMPETITIVE REACTION

. ARMS LENGTH RELATIONSHIP WITH REGULATED ENTITY

. COMPETITIVE GROWTH VIA ACQUISITION WITHIN THE INDUSTRY

. STAFFING

. TECHNICAL CONSIDERATIONS

    - INTEGRATED APPROACH
    - VM/CMS, CHARGEBACK, BILLING SYSTEMS
    - INFORMATION SYSTEMS PRODUCTS
    - TRAINING/SUPPORT

SNET SERVICE BUREAU ENVIRONMENT

PROCESSING SERVICES

- REMOTE COMPUTING SERVICE
  - INTERACTIVE
  - REMOTE BATCH
  - DATA BASE
  - VIDEOTEXT
  - OFFICE SYSTEMS

- BATCH SERVICES

SOFTWARE PRODUCTS

- APPLICATION PRODUCTS
  - INDUSTRY-SPECIALIZED PRODUCTS

PROFESSIONAL SERVICES

- CONSULTING

- SYSTEMS DESIGN/CUSTOM PROGRAMMING

- EDUCATION/TRAINING (LIMITED)

INTEGRATED SYSTEMS

- PERSONAL COMPUTERS

- OFFICE SYSTEMS

_____ = initial focus

PROCESSING SERVICES

INFORMATION PROCESSING FACILITY

```
E  ⎫
N  ⎬   . CRT/TTY              INTERACTIVE
D  ⎭   . PERSONAL COMPUTER
       . RJE STATION
U  ⎫
S  ⎬
E  ⎬
R  ⎭
```

DECISION SUPPORT SYSTEM	BATCH PROCESSING
DATA BASES	OFFICE SYSTEM
DEVELOPMENT CENTER	VIDEOTEXT
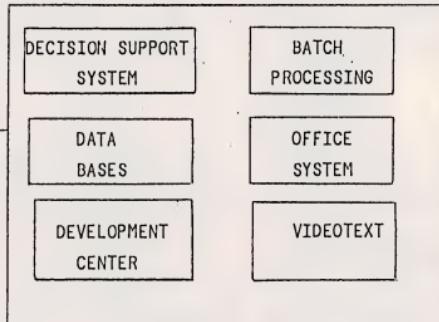
OUTPUT FACILITY

. PRINTED OUTPUT
. MICROFICHE
. TAPE
. CRT/TTY
. PC/RJE

HARDWARE FACILITY

- LEVERAGE EXISTING DEC 10/20 ENVIRONMENT
- MIGRATE TOWARDS AN IBM 3033/4300 VM ENVIRONMENT BASED ON EXTERNAL DEMAND
- UTILIZE EXISTING REGULATED MVS FACILITY TO SUPPORT INITIAL BATCH AND DEVELOPMENT CENTER NEEDS
- MIGRATE TOWARDS AND IBM 3033 MVS/TSO ENVIRONMENT BASED ON EXTERNAL DEMAND

DIRECTION

- USER FRIENDLY INTERACTIVE ENVIRONMENT
- AVOIDANCE OF LABOR INTENSIVE ENVIRONMENT
- MIGRATION TOWARDS IBM HARDWARE ENVIRONMENT
- PROVIDE FOR AN INTEGRATED "END TO END" INFORMATION PROCESSING FACILITY

PROCESSING SERVICES

DECISION SUPPORT SYSTEM (NON EDP PROFESSIONAL)
- DATA QUERY AND ANALYSIS
- REPORT FORMATTING
- GRAPHICS
- STATISTICS
- FINANCIAL PLANNING
- PROJECT MANAGEMENT
- TEXT PROCESSING
- LANGUAGES

DEVELOPMENT CENTER (EDP PROFESSIONAL)
- TSO
- CMS
- ISPF
- APPLICATION GENERATIONS
- LANGUAGES
- IMS, CICS

DATA BASES (BUSINESS COMMUNITY)
- EXTERNAL
    - BIBLIOGRAPHIC (OVER 800)
        - TEXTUAL
        - PUBLISHED DOCUMENTS
    - STATISTICAL (OVER 400)
        - FINANCIAL
        - U.S. ECONOMIC INDICATORS
        - DEMOGRAPHIC, CENSUS
        - MARKETING
- INTERNAL
    - BNA, LNA, SAG ...
- FACILITY FOR 3RD PARTY DATA BASES

PROCESSING SERVICES

OFFICE SYSTEMS (CLERICAL   MANAGEMENT)
- VOICE STORE AND FORWARD
- SCHEDULING
- MAIL
- DOCUMENT PREPARATION

VIDEOTEXT (BUSINESS COMMUNITY)
- GATEWAY TO DATA BASES
- ORDER ENTRY
- CREDIT AUTHORIZATION
- TIMETABLES AND SCHEDULES
- PRODUCT INFORMATION AT RETAIL OUTLETS
- CATALOG LISTINGS AND SALES MANUAL
- ELECTRONIC MAIL
- NEWS, WEATHER, TRAVEL, HOTEL INFORMATION

BATCH PROCESSING (BUSINESS COMMUNITY)
- LOCAL PROCESSING
  - BILLING
  - INVENTORY
  - INFORMATION SYSTEMS

<u>SOFTWARE PRODUCTS</u>

. <u>APPLICATION PRODUCTS</u>

- INDUSTRY-SPECIALIZED PRODUCTS (COMMUNICATION INDUSTRY)
    . MARKET EXISTING SOFTWARE PRODUCTS
        - 100+ LOCALLY DEVELOPED SYSTEMS
                ACCOUNTS PROCESSING
                MESSAGE PROCESSING
                BILLING & ACCOUNTS RECEIVABLE
                DIRECTORY
                REVENUE REQUIREMENTS SUPPORT
                BUSINES OFFICE SYSTEMS
                MARKETING SUPPORT
                PAYROLL AND PERSONNEL
                ADMINISTRATION AND TREASURY
                NETWORK
                PROPERTY AND COST

    . DEVELOPMENT OF NEW SOFTWARE PRODUCTS
        - CATV, OCC, ATT, CSO, INDEPENDENT TELCO'S ETC. ...
                APPLICATIONS

PROFESSIONAL SERVICES

- CONSULTING (COMMUNICATIONS INDUSTRY +)

- SYSTEMS DESIGN/CUSTOM PROGRAMMING

- TRAINING (SUPPORT FUNCTION)

  - USE OF INTERACTIVE FACILITY
  - PRODUCT TRAINING
  - SOFTWARE APPLICATION TRAINING

INTEGRATED SYSTEMS

. __INTEGRATED SYSTEMS__ (TURNKEY)

- PROVIDE FOR THE INTEGRATION OF SYSTEMS AND APPLICATIONS SOFTWARE
  WITH HARDWARE, PACKAGED AS A SINGLE ENTITY.

    - PERSONAL COMPUTER
    - OFFICE SYSTEMS
    - DECISION SUPPORT SYSTEMS

ISO LOB - SERVICE PROVISIONING

- **INTERNAL SNET ENVIRONMENT**
    - **CUSTOMIZED EDP SOFTWARE, ASSOCIATED PROFESSIONAL SERVICES AND RELATED HARDWARE SUPPORT FOR:**
        - UNREGULATED LOB GROUPS
            - DIRECTORY, CELLULAR, OCC, SONECOR SYSTEMS ...

        - SNET INTEREXCHANGE CUSTOMERS
            CUSTOMIZED REPORTING, BILLING ETC. REQUIREMENTS FOR CONN. AND OTHER CUSTOMERS OF ATTIX, MCI ETC.

        - UNREGULATED WORK EFFORTS

    - **MARKET SNET EDP SYSTEMS ON A ROYALTY BASIS**
        - 100+ LOCALLY DEVELOPED SYSTEMS

    - **PROVIDE TIMESHARE FACILITY TO SNET VIA DEC & POTENTIALLY VM ENVIRONMENT**
        - DEC 10/20 ENVIRONMENT
        - IBM 3033/4300 VM ENVIRONMENT
        - ALL SNET TIMESHARE REQUIREMENTS TO UTILIZE FACILITY UNLESS
            PRICING NOT COMPETITIVE
            PRODUCT NOT AVAILABLE

    - **ISO OPERATIONS TO PROVIDE SPACE AND OPERATIONAL SUPPORT**
        - INITIAL FACILITY AT NDC
        - OPERATIONAL PERSONNEL TO SCHEDULE AND OPERATE

- **EXTERNAL ENVIRONMENT**
    - PROCESSING SERVICES, SOFTWARE PRODUCTS, AND PROFESSIONAL SERVICES

FUNCTION   FACILITY PROVIDED   TARGET MARKET OPPORTUNITY

PROCESSING   DEC (DEC 10/20)   END USER   EDP PROFESSIONAL

                         RJE INTERACTIVE FACILITY   . MANAGEMENT   . PROGRAMMER
                         DECISION SUPPORT SYSTEMS   . PERSONNEL   . ANALYST
                            - PLANNING/MODELING (EMPIRE, ...) . BUS. RESEARCH   . MANAGER
                            - DATA BASE MGMT (DPL, ...)   . MARKETING
                            - GRAPHICS (DISSPLA, ...)
                            - STATISTICS (SPSS, ...)
                            - LANGUAGES (FORTRAN, ...)   COMMUNICATIONS/UTILITIES
                            - DATA BASES (BTB, ...)
                            - TEXT PROCESSING   FINANCIAL/BANKING

                         IBM (IBM 3033/3081)   DATA PROCESSING

                         TSO, CMS, CICS, IMS ISPF
                         ON-LINE INTERACTIVE ENVIRONMENT   EDUCATION
                         BATCH, RJE FACILITY
                         PERIPHERAL SUPPORT   PROFESSIONALS
                            - TAPE, MSS, DASD, FICHE, PRINTING   . LEGAL
                         DECISION SUPPORT SYSTEM   . MEDICAL
                            - PROJECT MANAGEMENT
                            - FINANCIAL MODELING   GOVERNMENT
                            - INFO/DATA BASE MGMT (RAMIS, ...)
                            - GRAPHICS (GDDM, ...)   INSURANCE
                            - STATISTICS/MATH (SAS, ...)
                            - LANGUAGES (COBOL, ...)
                            - OFFICE SYSTEMS (PROFS, ...)
                            - DATA BASES
                               . EXTERNAL (FIN., DEMO., ...)
                               . INTERNAL (BNA, LNA, SAC, ...)
                                 VIDEOTEXT
                         MAILINGS
                         OFFICE SYSTEMS

FUNCTION	FACILITY PROVIDED	TARGET MARKET OPPORTUNITY
APPLICATION PRODUCTS	MARKET EXISTING APPLICATION PRODUCTS	COMMUNICATIONS INDUSTRY - NAT'L AND INTERNAT'L TELCO'S - CATV - OCC

FUNCTION

APPLICATION
PRODUCTS

FACILITY PROVIDED

MARKET EXISTING APPLICATION PRODUCTS

DEVELOPMENT FOLLOWING APPLICATION AREAS:
. ORDER ENTRY
. BILLING
. INVENTORY
. MARKETING INFO SYSTEMS
. INFORMATION PROVISIONING
. CASH MANAGEMENT

TARGET MARKET OPPORTUNITY

COMMUNICATIONS INDUSTRY
- NAT'L AND INTERNAT'L TELCO'S
- CATV
- OCC

COMMUNICATIONS
- CATV, OCC, SATELLITE, AMPS
- AT&T, BOC'S, INDEPENDENTS
- ALARM CO's
UTILITIES
- WATER, GAS, ELEC

LOCAL GOVERNMENT

FINANCIAL, RETAIL, INSURANCE

MEDICAL, LEGAL

SMALL BUSINESS

SNET SERVICE BUREAU ENVIRONMENT

| FUNCTION	FACILITY PROVIDED	TARGET MARKET OPPORTUNITY
PROFESSIONAL SERVICES		
CONSULTING DSGN/PGM	APPLICATION DEVELOPMENT OPERATIONAL FACILITIES MGMT HARDWARE/SOFTWARE ANALYSIS & SELECTION OFFICE SYSTEMS	IN SUPPORT/CONJUNCTION WITH PROCESSING & APPLICATION PRODUCT AREAS
TRAINING	USE OF INTERACTIVE FACILITY PRODUCT TRAINING SOFTWARE APPLICATION TRAINING	SUPPORT PROCESSING SERVICES SOFTWARE PRODUCTS
INTEGRATED SYSTEMS (TURNKEY)	APPLICATION SOFTWARE/HARDWARE FOR PERSONAL COMPUTERS OFFICE SYSTEMS DECISION SUPPORT SYSTEM	PROFESSIONAL BUSINESS COMMUNITY SMALL TO MEDIUM SCALE BUSINESS
NETWORKS	LOCAL LONG HAUL VALUE ADDED NETWORK . SNA, X.25, PACKET NETWORK, ...	

OPPORTUNITIES

ORGANIZATION	AREA	FINANCIAL PERSPECTIVE
ATTIX	NEW SERVICES (TELECONFERENCING)	700K + RECURRING
	OPEN BILLING	SIGNIFICANT
AT&T INTERNAT'L	LOCALLY DEVELOPED SYSTEM	SIGNIFICANT
AUXCO	NETWORK SOFTWARE	ROYALTY + MRKT RIGHTS
	LOCALLY DEVELOPED SYSTEMS	
	TIMESHARE FACILITY	800K +
MID-CONTINENT	MTS BILLING	250K + RECURRING
	OPEN BILLING/CABS	
CONTINENTAL	MTS BILLING/OPEN BILLING	
UNITED TEL	OPEN BILLING/CABS	
NEW BRUNSWICK TEL	CREDIT CARD	
CITIZENS TEL	MTS	CONSULTING
MCI	TIMESHARE FACILITY	
	DEVELOPMENT	
CRITERION	DATA BASE	SIZABLE DEC TIMESHARE

ISO/LOB ORGANIZATION

. SEPARATE ORGANIZATION WITH TOTAL RESPONSIBILITY FOR CUSTOMIZED SNET ENVIRONMENT
AND EXTERNAL ENVIRONMENT
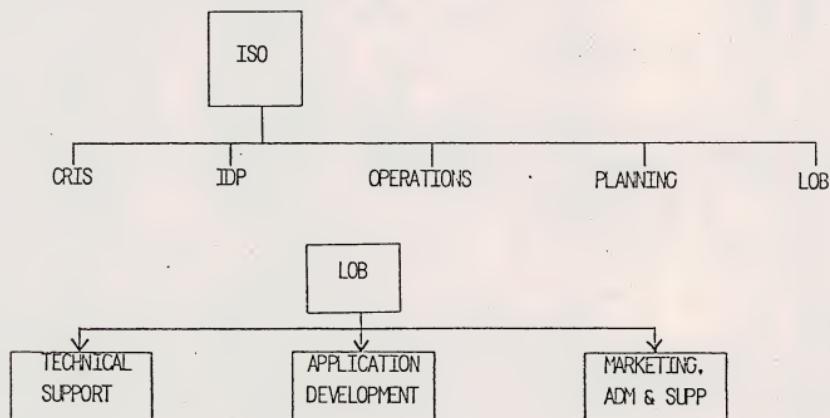
```
                    ┌─────────┐
                    │   ISO   │
                    └────┬────┘
                         │
   ┌──────────┬──────────┼──────────┬──────────┐
 CRIS        IDP     OPERATIONS   PLANNING     LOB
```

```
                    ┌─────────┐
                    │   LOB   │
                    └────┬────┘
                         │
   ┌─────────────────────┼─────────────────────┐
   ▼                     ▼                      ▼
┌───────────┐      ┌──────────────┐      ┌──────────────┐
│ TECHNICAL │      │ APPLICATION  │      │ MARKETING,   │
│ SUPPORT   │      │ DEVELOPMENT  │      │ ADM & SUPP   │
└───────────┘      └──────────────┘      └──────────────┘
```

. DEC	. PROFESSIONAL SVCS	. MRKT:
. VM	– DESIGN	LOCALLY DEV. SYSTEMS
. MVS	– PGM	NEW DEV. EFFORTS
. INFO CENTER (EXTERNAL)	– CONSULT	TIMESHARE FACILITY
. HOTLINE (INTERNAL)	. IMPLEMENT SOFTWARE	IDENTIFICATION NEEDS
. NETWORK	PRODUCTS	. NEGOTIATE:
		VENTURES
		ROYALTIES
		. CONTRACT
		. BILLING
		. PRICING
		. TRAINING